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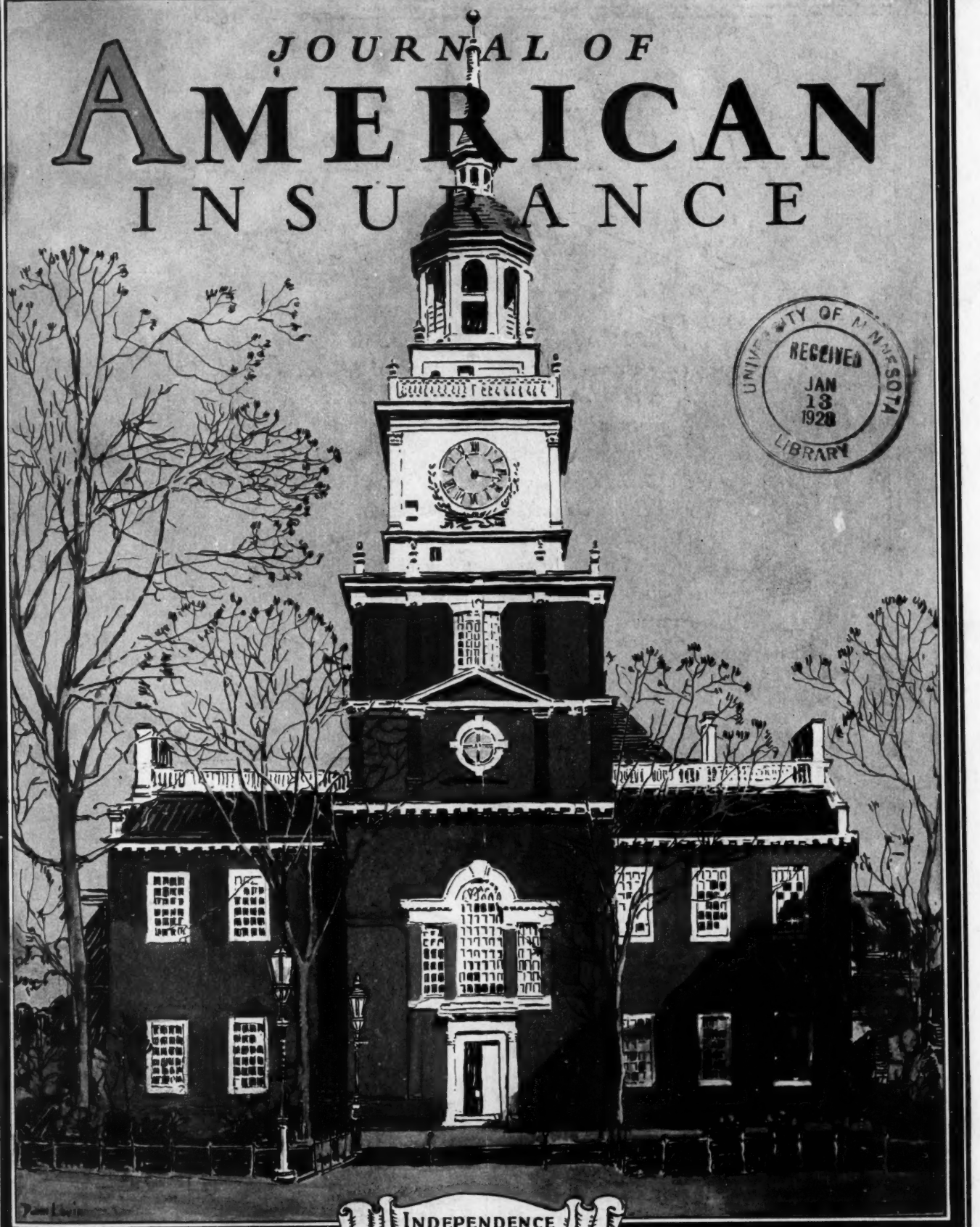

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Photograph by Underwood and Underwood

AT THE HINES LUMBER COMPANY FIRE IN CHICAGO

Dust Explosions and Fire Fighting

Nature and Extent of This Form of Industrial Hazard and the Methods of Protection Against It

By DAVID J. PRICE

Engineer-in-Charge Chemical Engineering Division Bureau of Chemistry and Soils, U. S. Department of Agriculture, Washington, D. C.

From an Address

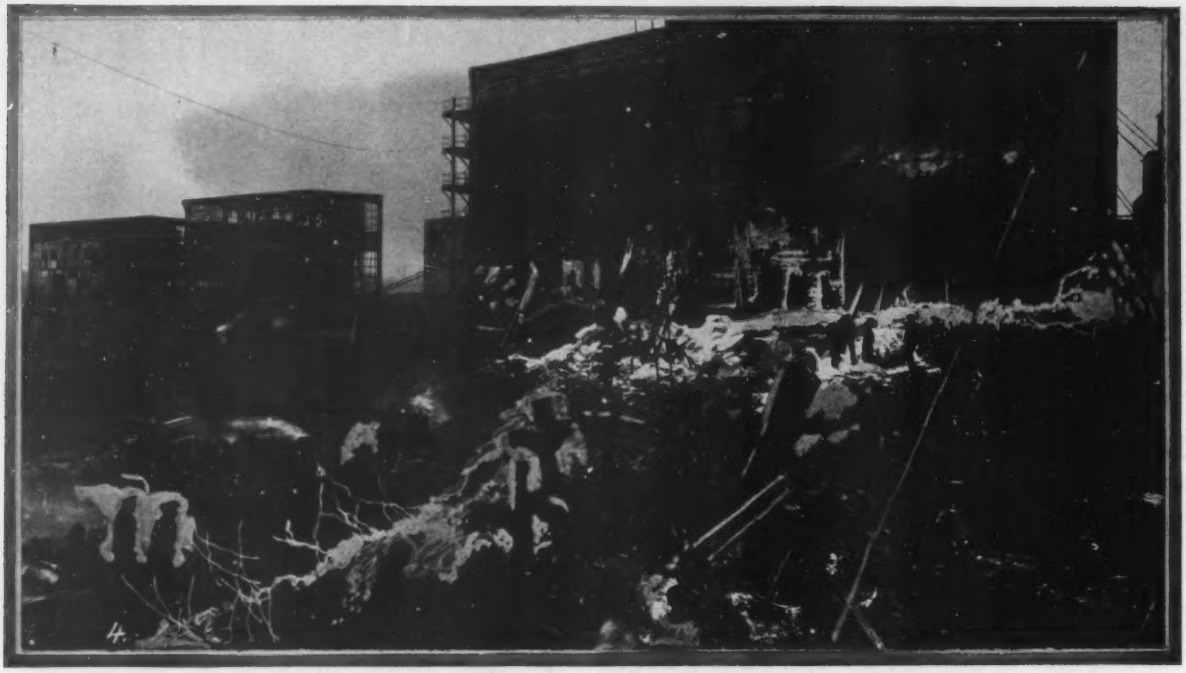
Delivered at Fire Prevention School, Milwaukee Association of Commerce, Milwaukee, Wisconsin November 15, 1927

ATTENTION to dust explosion prevention in the United States has been directed to (1) explosions in coal mines, (2) explosions in industrial plants and manufacturing establishments. In connection with the work that has been done by the Bureau of Chemistry of the U. S. Department of Agriculture it has been found that approximately 28,000 industrial plants in the United States alone are subject to the dust explosion hazard and therefore should adopt precautionary measures. These plants employ approximately 1,324,422 persons and manufacture products of an annual value in excess of $10,000,000,000.

The Bureau has obtained records of 300 dust explosions of this character. In 77 of these explosions 496 persons were killed, and in 105 explosions 875 were injured. In 161 cases the property loss amounted to $39,706,108, an average of nearly $247,000 for each explosion.

Dust explosions in industrial plants occur in various ways. Most of them naturally take place during the normal operating process, but others have happened under unusual conditions. In some instances explosions have taken place during the fighting of fires in the manufacturing establishments, resulting in the loss of the lives of firemen engaged in the performance of their duty. It is the purpose of this address to refer to certain phases of this work that relate to the protection of firemen in the fighting of fires in industrial establishments where explosive dusts are produced during the manufacturing processes and also to suggest precautionary measures that might be followed.

Microscopic Gains of Dust Igniting Suddenly Brought these Buildings Down into Scattered Heaps of Ruins



Fire Invariably Follows Dust Explosions, Thus Increasing the Hazard to Life and Property

Dust Explosions Similar to Gas Explosions

IT is now generally known that the behavior of a dust explosion is somewhat similar to a gas explosion. The dusts require definite ignition temperatures, and also have what might be termed the lower and upper limits of concentration. For instance, the lower limit of methane gas, CH_4 is 5.5 per cent, and the upper limit is approximately 14.5 per cent. The lower limit of concentration for hydrogen gas and air has been given as 4.1 per cent; the upper limit is as high as 72.4 per cent. The lower limit of carbon monoxide gas, CO, is approximately 12 per cent; the upper limit is about 72 per cent. Very little work has been done to determine the limits of concentration of explosive industrial dusts. In the tests made it has been found that ordinary corn starch dust can ignite with a mixture of approximately 0.007 ounces per cubic foot, or 7 ounces per thousand cubic feet.

The ignition temperature of methane gas, CH_4, ordinary mine gas, has been found to be approximately 650° C.; hydrogen gas, 580° C.; and carbon monoxide gas, 644° C. The ignition temperatures of a number of explosive dusts are about the same as the ignition temperatures of certain gases. For example, the ignition temperature of pulverized sugar is 540° C.; flour, 650° C.; and corn starch, 640° C. The rate of flame propagation of a mixture of hydrogen and oxygen has been found to be approximately 9,250 feet per second; a mixture of methane and oxygen, 7,600 feet per second; and a mixture of carbon monoxide and oxygen, 5,500 feet per second. In certain dusts the rate of flame propagation has ranged from 2,000 to 6,000 feet per second.

Pressures ranging from 270 pounds to 400 pounds per square inch have been measured in tests with certain kinds of dusts. A prominent chemist has estimated that if an ordinary sack of flour could be diffused evenly in a room of 10x20x20 feet, or having a volume of 4,000 cubic feet, sufficient pressure would be produced to raise a weight of 2,500 tons a distance of 100 feet.

Since the ignition sources of explosive dusts are practically the same as those of explosive gases a readily accepted theory would be that any source which will ignite explosive gases will readily ignite explosive dusts. This would include matches, open flames, electric sparks, fires, and similar causes of ignition.

The relative degree of fineness seems to be one of the principal factors to consider in determining the explosibility of dust. It is believed that the degree of fineness determines the rate of flame propagation through the dust cloud.

Assuming this to be correct the industries in which fine dusts are produced during operating processes should recognize the hazard of dust explosions and adopt methods of control and prevention.

Early Dust Explosions.

ALTHOUGH the explosion in the Washburn Flour Mills in Minneapolis on May 2, 1878, has been referred to as the first disastrous dust explosion in the United States, records indicate that explosions of this character took place as early as 1860. An explosion of flour dust is reported as occurring in a warehouse in Turin, Italy, on December 14, 1785. The investigator, Count Morozzo, stated that the baker in the plant in which the explosion occurred had witnessed a similar explosion when he was a boy, probably 30 years earlier. This would establish the date of 1755 as the time of one of the earliest explosions of flour dust, which is at least 100 years before any recorded explosion of this type in the United States.

The explosion in the Washburn Flour Mills in Minneapolis, Minn., resulted in the loss of 18 lives and considerable property damage. It led to an exhaustive study on the part of the flour milling industry with the result that effective dust collecting systems were designed and installed in the flour mills in the United States and Canada. These systems have been instrumental in reducing the loss from dust explosions and fires,

(Continued on page 28)

Engineering Insurance

Indemnifying for Loss and Damage Connected With the Use of Energy for Power Purposes

By C. A. KULP
Assistant
Professor of Insurance
Wharton School of Finance
and Commerce
University of Pennsylvania

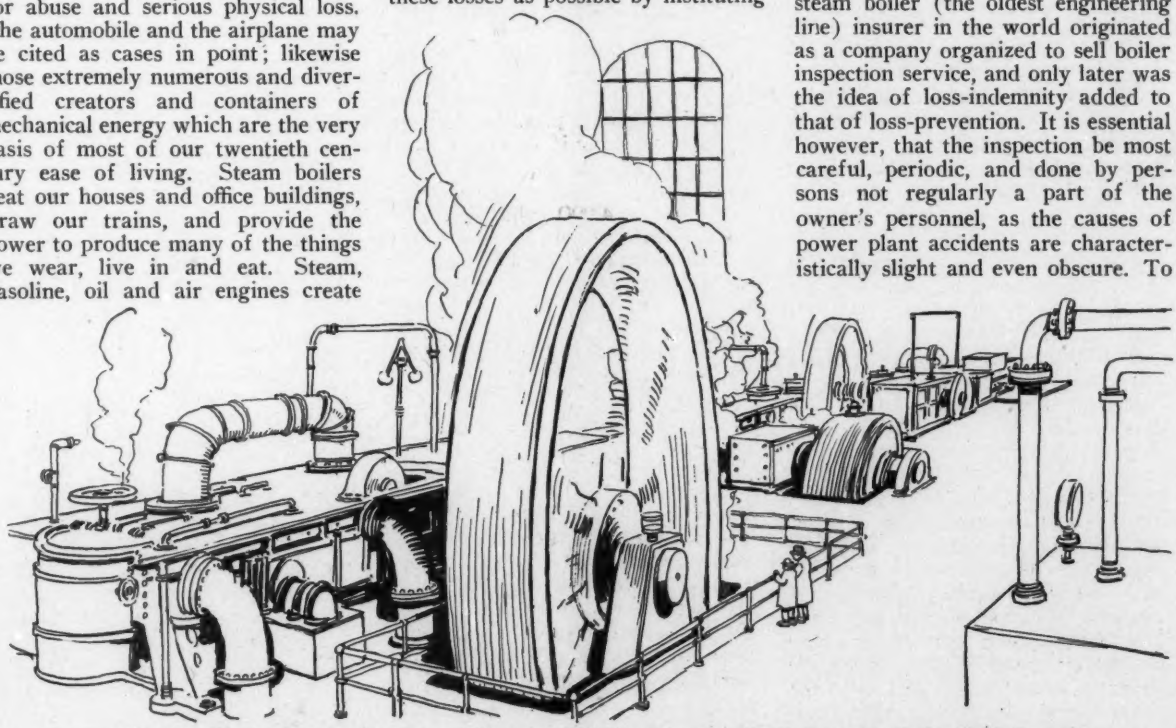
THERE are sold in this country and abroad a number of allied casualty insurance lines to which the English have given the aptly chosen general title, "engineer insurance," an expression coming into increasing use on this side of the water. The function of this insurance is to indemnify the insured for loss and damage resulting from the hazards connected "with the generation, storage or distribution of energy for power purposes." What these engineering machines are, what hazards they produce, and what insurance covers are devised to cover them will be treated briefly in the following paragraphs. The task of summarizing the engineering lines within the compass of a small space is an especially difficult one, for without exception there is no single casualty cover which is characterized by so many unique features.

The Nature of the Hazard

IT is a truism that every new advancement in material civilization, every additional evidence of progress, brings with expanded capacities for enjoyment and profit, equal capacities for abuse and serious physical loss. The automobile and the airplane may be cited as cases in point; likewise those extremely numerous and diversified creators and containers of mechanical energy which are the very basis of most of our twentieth century ease of living. Steam boilers heat our houses and office buildings, draw our trains, and provide the power to produce many of the things we wear, live in and eat. Steam, gasoline, oil and air engines create or transmit the energy which runs our mills and factories, our mines and, in these days, even our farms. And by no means least this is increasingly the era of the tremendously complex, tremendously expensive electrical machine.

Every one of these power machines can and at times does go wrong. It is estimated that every year there occur between 1300 and 1400 serious accidents to steam boilers alone, many of them involving destruction of property valued at many thousands of dollars. Engine, flywheel and electrical machinery accidents also are numerous and while not nearly so spectacular, often produce through damage to the power machine itself and to other property surrounding it losses of considerable magnitude.

In his approach to the problem of these losses the power plant owner has two possibilities of procedure. The first is to prevent as many of these losses as possible by instituting as a part of his organization the most rigorous inspection service he can devise. This plan at first blush has many things in its favor, but a number of limitations seriously reduces its efficiency. To begin with, an inspection service of really high standards is possible only for the very largest power plant owner and in the medium and smaller sized plant is very likely to exist in name rather than fact. And even in the best-managed plant, the inspection force, by its very familiarity with the equipment, is likely to miss or pass by as unimportant the slight breaks and flaws which are the incipient causes of boiler, engine and electrical machinery accidents. That this latter is a really valid consideration is proven by the fact that the engineering insurance company's inspection staff finds many a corroded or sprung boiler plate when it makes its inspection after that of the regular plant inspection force. Inspection is not to be minimized as a factor in meeting the power plant accident hazard, for we shall see presently that the insurance company itself relies primarily on inspection as a modus operandi. In fact the first steam boiler (the oldest engineering line) insurer in the world originated as a company organized to sell boiler inspection service, and only later was the idea of loss-indemnity added to that of loss-prevention. It is essential however, that the inspection be most careful, periodic, and done by persons not regularly a part of the owner's personnel, as the causes of power plant accidents are characteristically slight and even obscure. To



Innocent Looking Flywheels and Other Pieces of Machinery Have A Way of Suddenly Loosening Up To Work Destruction

illustrate, here are a few of the more usual causes of steam boiler accidents: Hidden defects of boiler plates or seams; concealed corroded plates, springs and flanges; failure of safety valves, and the like. Engine accidents are the result of such causes as failures of the engine frame, cylinders or pistons. Most obscure of all causes are those which result in electrical machinery breakdown: motors, transformers and switchboards burn out, connections are broken and short circuits are formed. Even *after* a breakdown of an electrical machine it is sometimes not possible even for experts to ascertain the exact cause of the accident.

It is only by taking out engineering insurance that the power plant owner can really be protected. The insurance company gives him the inspection service that is essential, and probably at a smaller cost than that of a self-maintained department. At least that is the conclusion one must draw from the fact that not less than 90 percent of all the steam boilers in the country are insured, leaving a smaller residue of self-insured risks than in any other casualty line. But the insurance company can give him more than inspection service, valuable as that is. It is true in this field as elsewhere that "accidents will happen"—tremendously serious and costly accidents; otherwise we should have no 1300 steam boiler accidents every year in spite of inspection. The second part of the insurer's contract (the policy) is his promise to indemnify for losses *not prevented*. No inspection service ipse can compete with a service of inspection plus indemnity, a fact which explains the almost universal insurance of the engineering accident hazard, especially that of steam boilers.

Types of Engineering Policies

ENGINEERING insurance policy contracts may be classified first on the basis of the *object of insurance*. Thus there are four distinct policy forms, covering steam boilers, flywheels (this may be a part of the engine policy), engines, and electrical machines. It must not be understood that the meaning of the expression "object of insurance" is the same as that of *losses insured against*. Quite otherwise! An outstanding characteristic of power plant policies is the comprehensive scope of the coverage extended. In the steam boiler hazard for example, the gravest danger is not to the object insured, which is limited by the size and cost of the boiler; it is that the explosion of the boiler will do damage to other property of the insured and to the property of adjacent owners. The policy covers both kinds of hazards, as do all power plant policies. This is extremely broad coverage but the engineering policy is even broader still, for it covers also losses arising from the legal liability of the boiler owner because of injuries done to the persons of others. To none of these kinds of loss and damage except that to the object itself is there a definitely allocable limit, and a boiler gone berserk easily does damage amounting to a dozen times its own cost. If steam boiler insurance were operated on the same department store principle as certain other types of insurance, fire and allied lines for example, an all-round cover of this kind would require shopping among different companies and for a number of different policy forms. Not the least of its many distinctions is this catholicity of the engineering policy contract.

PHOTO BY U. & U.

An Engine Room Throbs With Power—and Danger

A second classification of engineering policies goes hand in hand with the first, one based on the degree of completeness of the protection promised by the company. The usual engineering policy covers, as do all property damage insurances, *direct loss* from a defined cause only. Here again the engineering forms have a claim to distinction. *Indirect* loss resulting from a boiler or engine accident is recognized to be of two kinds. It may be loss of *physical and tangible property* which follows from a boiler or engine accident but only indirectly, such as loss to greenhouse plants while a boiler is replaced or repaired after explosion, or loss to packing house products through the breakdown of a cold storage plant. Neither of these, nor losses analogous, would properly be paid under a direct damage policy; yet since their possibility is evident and their magnitude considerable, a second policy known as the Consequential Damage form is available to cover them. Or it the indirect loss is of *intangible property,* as of expenses and/or profits, the insured may be protected by a use and occupancy policy, modeled very closely after analogous forms used with fire insurance. There is not the space here to discuss the value of use and occupancy or other consequential loss coverage, but it should be noted that in manufacturing industries especially, in these days of round-about production, protection against indirect loss from power plant accidents is not the least important of the plant owner's requirements. The most recent engineering use and occupancy policy is one insuring against electrical current interruption, and is distinctive in that it covers use and occupancy losses resulting from shut-down of the power plant of another than the insured, that is, of a public utility producing and selling electric current.

The Power Plant Policy

BECAUSE the steam boiler (direct damage) policy is that sold in greatest volume, (steam boiler insurance makes up over two-thirds of total engineering insurance) it will be analyzed as a type of power plant policy. This method is entirely feasible because the similarities between the various engineering forms are both more numerous and more important than their differences. The language of the analysis will necessarily be that of the steam boiler cover, with a notation of exceptions

(Continued on page 29)

Do You Understand Co-Insurance?

An Explanation of Its Benefits and Dangers and Its Operation in Case of Loss

By O. M. THURBER

Secretary Northwestern Association of Mutual Insurance Companies, Owatonna, Minnesota.

MR. MERCHANT had the misfortune to sustain a good sized partial loss by fire on his building and merchandise, not long ago. The loss was approximately $50,000 on the building and $20,000 on stock, a large sum, indeed, gone up in smoke, and a much larger one than the figures show when we consider the time lost and income taken away from the business during the period necessary for adjustment and getting things in shape for a reopening.

One thing which helped the situation was that Mr. Merchant, being a good business man, had the actual loss covered with adequate insurance. A few years ago, immediately after taking inventory, he had placed his fire and windstorm insurance protection on the co-insurance plan, agreeing to carry insurance at all times for an amount equaling eighty per cent of the value of the property insured.

This plan gave him more complete coverage and, as he occupied a brick building in a well protected town, it also reduced his rates and premiums by twenty-five per cent on building insurance and fifteen per cent on contents. The reduction in rates and premiums has made it possible for Mr. Merchant to carry more insurance for about the same amount of money as he had formally expended on this business-cost item for a small amount of protection, on the ordinary insurance plan.

After the fire Mr. Merchant had a sad awakening and he criticised the insurance companies bitterly. In adopting the co-insurance, he had made the common mistake of thousands of assureds. He had not informed himself thoroughly in regard to the requirements and penalties included in every co-insurance agreement. This was partly the fault of Mr. Merchant, but, very probably due largely to the unintentional, or indifferent, or misleading analysis made by representatives of the insurance companies.

AS previously stated, the eighty per cent insurance on stock had been placed at inventory time (which is usually a low stock period of the year), and no further attention had been given to it. The insurance on the building had been based on his own judgment, or guess, of building valuations and he even clipped that some. Of course, there was also a depreciation for age to be considered.

Another element that entered into the placing of the insurance at eighty per cent of the valuation was the fact that Mr. Merchant had never had a fire and believed that he never would have one. Being cautious, however, he had taken advantage of larger protection at no material advance in cost. The agents and insurance company representatives had glided lightly over the matter. The idea was conveyed that the chief thing was more protection to pay back a larger amount in case of loss.

Following this line of thought he had placed his own personal building valuation at $50,000, carrying $40,000 insurance.

The adjusters arrived and after finding out the origin of the fire proceeded to determine the actual cash value of the building and stock at time of the fire. They, of course, followed the rule that ADJUSTMENT OF FIRE LOSSES ARE BASED ON THE ACTUAL CASH, OR REPLACEMENT VALUE AT THE TIME OF THE FIRE—NOT ACTUAL COST PRICE TO THE ASSURED.

Photo By P. & A.

Two Million Dollars Reported Lost In This New York Warehouse Fire

In order to make this hypothetical example clear we will allow the adjusters to take up each item separately, as they actually would do in case of loss. First, therefore, they will consider the building loss.

The Building Loss.

MR. Merchant had presumed that he had placed insurance to the amount of eighty percent of the building value, although he was not an appraiser and had never tried to estimate the value of a building before. Of course he knew what the property had cost him originally, the first cost having been figured by a competent contractor, about twenty years before the loss, when building material and labor were much less.

Now do not lose sight of the point that Mr. Merchant accepted co-insurance as a means of more protection at the same cost. This was, however, about all he knew about this plan of coverage.

After allowing a goodly depreciation, the adjusters found the building to be worth $60,000 in actual cash value at the time of fire, instead of $50,000 on which the eighty percent co-insurance had been based. The $40,000 insurance, therefore, represented but 40/60 percent of the value instead of 48/60 or the 80 percent agreed on. Thus he should have carried $48,000 insurance to come under the terms of the co-insurance plan.

The adjusters told Mr. Merchant that although he had $25,000 more insurance on the building than the loss amounted to, he would be compelled to stand 1/6 or $2,500 of it himself. In other words, the insurance companies, carrying a total of $40,000 insurance on the building would only pay Mr. Merchant $12,500 on a $15,000 loss.

The adjustment on stock brought about the same results. As before stated, Mr. Merchant had placed co-insurance on merchandise during inventory time, and had afterwards forgotten all about it. The inventory had disclosed merchandise valued at approximately $80,000. On this was placed $64,000 insurance under the eighty percent co-insurance plan. At the time of loss the sound value of the merchandise was found to be $100,000. Eighty percent of $100,000 is $80,000, the amount of insurance which should have been carried. With $64,000 insurance in force on a $20,000 loss Mr. Merchant could collect only $16,000 from the companies. He stood $4,000 of the loss himself.

THE final results were that covering the entire loss on building and stock and the stock item including damage to fixtures, Mr. Merchant with $104,000 insurance, collected on a $35,000 loss, $28,500 from the insurance companies which made him a loser by $6,500.

If he had carried the $128,000 insurance straight, without the co-insurance feature, he would have collected the entire amount of the loss.

When the result of the adjustment was made known, there was a sudden mental explosion accompanied by a terrific verbal bombardment against the insurance companies. During a lull in the offensive put on by Mr. Merchant, the adjusters stepped in to defend the companies and were able to show the assured just where he, not the companies, should shoulder the blame.

They told him that in the first place he should never enter into an agreement unless he thoroughly understood it, and after understanding it, if he decided to become a party to it, he should fulfill his obligations in connection thereto, and as stipulated in the contract. Mr. Merchant, of course, agreed to that statement.

The adjusters then took up the co-insurance contract with a thorough explanation something as follows:

First let us read the clause carefully and give it some thought as we do so.

The Co-Insurance Clause.

"IN consideration of acceptance by the assured of a reduction from the established rate of..... to.....it is hereby agreed that the assured shall maintain insurance during the life of this policy upon the property hereby insured to the extent of at least..... percent (in Mr. Merchant's case eighty percent) *of the actual cash value at the time of fire, and that failing so to do the assured shall to the extent of such deficit bear his, her, or their proportion of any loss,* and it is expressly agreed that in case there shall be more than one item or division in the form of this policy this clause shall apply to each and every item unless otherwise specifically stated.

"This clause, at the request of the assured, is attached to and forms a part of Policy No.....of the .....Fire Insurance Company of....."

The clause is signed by the assured and an authorized representative of the company.

There it is, as it appeared on Mr. Merchant's policies, and on yours if you are carrying your insurance on this plan. It is a contract pure and simple, just as the whole insurance policy is a contract, and just as any contract is a contract—and you know what a contract means.

Mr. Merchant agreed to carry insurance during the life of each policy covering building and contents in question to the extent of at least eighty percent of the ACTUAL CASH VALUE AT THE TIME OF FIRE. The part in heavy type is what I want to make plain. Mr. Merchant did not understand it. He did not carry out his part of the contract. Breaking the terms of the contract he naturally had to pay the penalty which appears in the other heavy type, *"and that failing so to do, the assured shall to the extent of such deficit bear his, her, or their proportion of any loss."*

The adjusters told Mr. Merchant that, in accordance with his agreement in that contract which he did not fulfill, he would have to come in as a sort of personal insurance company *to the extent of the deficit between the amount of insurance carried and the amount he should have carried.* They then took lead pencil and paper and jotted down a few tables to enable Mr. Merchant to visualize the facts more clearly.

The tables used by the adjusters were as follows, and in them please consider Mr. Merchant, where he is mentioned, as his own personal insurance company: (See page 21)

What He Should Have Done.

WHAT Mr. Merchant should have done before placing the co-insurance on his building was to have had a competent appraiser make

(Continued on page 21)

Practical Articles on Many Subjects

OF MUTUAL INTEREST

By Men Connected With Mutual Companies

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Crop Hazards and Their Insurance

Continuing a Series of Articles on the History of Efforts to Offer the Farmer Protection Against Years of Failure

BY G. WRIGHT HOFFMAN

Assistant Professor of Insurance, Wharton School of Finance and Commerce, University of Pennsylvania.

ARTICLE II

INSURANCE of growing crops is, by no means, an untried theory. Hail insurance was first written in the United States in the early eighties and has gradually grown in importance until its annual premium income for joint stock companies, mutual companies and state funds combined now exceeds $20,000,000. Following a comprehensive survey made in 1920, frost insurance has been written each year on the citrus crops of Florida and California and in Louisiana on sugar cane. This experiment has met with a varied success and has been applied only in a limited way, the gross premiums for 1925 being about a quarter of a million dollars.

In addition to these two lines covering a single hazard, there have been a number of experiments covering all of the major hazards to which a crop is exposed. These experiments having a blanket coverage are usually referred to as crop insurance in distinction to a crop policy covering but one risk and known by the type of risk insured.

In an earlier article the pioneer of these crop insurance experiments was described. It was a venture undertaken in the year 1899. No other attempts were made until comparatively recent years when, in 1917 and again in 1920, unsuccessful trials were made to write a broad crop policy on the major crops and since 1920 some success has been attained on a limited crop policy on some of the minor crops.

It is proposed in this article to outline the essential points of these crop insurance experiments and in so doing to make any observations which seem warranted regarding the future development of the field. In doing this attention is again directed to the urgent need of insurance in farming,—a point more fully developed in an earlier article. The farmer needs stability of income; instability of income is in large measure the result of the uncertainties of (1) the weather, (2) of plant disease and animal pests and (3) of price. To meet this need, insurance against these major risks offers one solution and from a permanent long-run viewpoint undoubtedly the best solution.

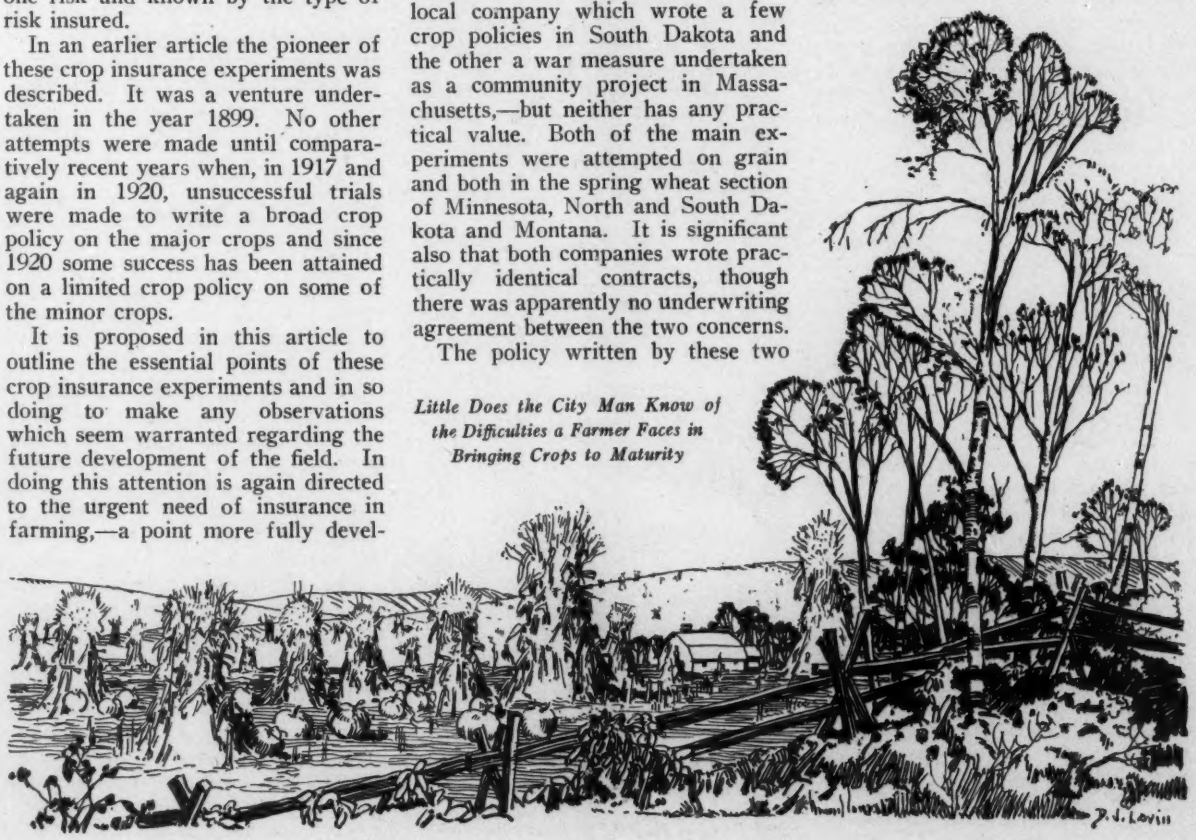
Experience of 1917.

TWO companies undertook to write a broad crop policy in 1917. One was a small company organized for that purpose in Montana and the other a well established fire insurance company of Pennsylvania. There were also two minor experiments this same year,—one by a local company which wrote a few crop policies in South Dakota and the other a war measure undertaken as a community project in Massachusetts,—but neither has any practical value. Both of the main experiments were attempted on grain and both in the spring wheat section of Minnesota, North and South Dakota and Montana. It is significant also that both companies wrote practically identical contracts, though there was apparently no underwriting agreement between the two concerns.

The policy written by these two companies read in part as follows: "The.....Company hereby insured .....in the sum of.....dollars, but in no event to exceed seven dollars per acre, of full ownership in crop against damage to or failure of the following described crops of small grain from hail or any cause, (excepting as stated in said application*), between the.....day of ....., 1917, at noon, and the 15th day of September, 1917, at noon Standard Time, and in no event shall the company be liable for damages after the grain is cut:"

The amount of insurance granted was $7 per acre in the event of total loss and, in the event of a partial loss, the company agreed to pay the difference between $7 per acre and an estimated value of the damaged crop, this estimated value being determined by multiplying the actual yield per

*The exceptions referred to in the application were "fire, flood, winter kill, or failure on my part to properly prepare the ground for seeding, and properly seed, care for, harvest, protect and thresh said crop."



Little Does the City Man Know of the Difficulties a Farmer Faces in Bringing Crops to Maturity

acre by a fixed price per bushel: for wheat $1, for flax $1.75, for rye 70 cents, for oats, barley and speltz 50 cents. To prevent adverse selection it was required that all of the applicant's crop of small grain be insured and through questions in the application, certified to by the insured, an attempt was made to insure crops grown on land of at least average quality in the community and on which a yield having a value of at least $7 per acre had been obtained during each of the previous three years. On this policy a premium of 10 per cent or 70 cents per acre was charged.

This policy insured the farmer against loss growing out of adverse weather conditions including drought and hail and against loss as a result of plant disease or animal or insect pests. In providing for an estimate of loss based upon a fixed price per bushel, the risk of a decline in the market price of the grain was not covered. It is clear, however, that in the event of a market price above the fixed price at the time of harvest, the insured would receive more than if the actual value of the damaged crop were subtracted from the $7 per acre coverage; and in the event of a market price below the fixed price, the insured would become a coinsurer with the company to an amount varying inversely with the market price. Instead of minimizing the importance of the price risk for the farmer, therefore, this method of adjusting a loss accentuated it.

THESE two ventures were not successful. Losses occasioned by drought were large, bankrupting the smaller concern and forcing the other company to withdraw from the field. While drought was the immediate explanation of the failures, the ultimate causes were more fundamental.

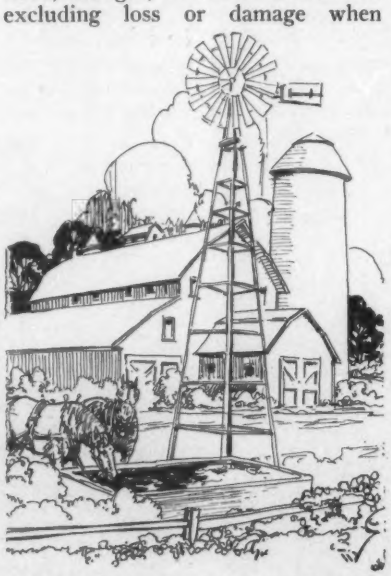
Chief among them, and one which might have been entirely avoided, was the fact that the insurance was written too late in the season. In many cases it was clearly evident that a crop failure was in sight at the time the business was written. A multitude of actions were brought growing out of claim adjustments and here it was shown that the insurance had been written in the latter part of June and early July by local bankers serving as agents of the company, to whom the insured was indebted and who were, therefore only too willing to write the insurance.

There were other contributing causes though they were not as obvious as the one just mentioned. A large proportion of the insurance was placed in the western portion of the Dakotas and Montana, a region known to be subject to drought and where it is not uncommon to consider oneself fortunate if one good crop in three is grown. Perhaps the 10 per cent rate was not high enough or the $7 per acre limit was too high. In any event a greater spread would certainly have improved the chances of success.

Experience of 1920.

WITH the exception of a minor experiment in Missouri in 1919, crop insurance was not attempted again until 1920. In this latter year, several companies became interested in the possibilities of the line and one leading fire insurance company entered the field writing approximately $14,000,000 of insurance and charging a premium averaging about 5¾ per cent. The undertaking was not a financial success as the ratio of losses to premiums was over 300 per cent, but it served to demonstrate in a very real manner the impracticability of one or two features of crop insurance.

The plan was to insure the farmer against the loss of his necessary expenses in putting in his crops and caring for them in the event that the crops turned out to be worth less than the estimated expenses. The policy stipulated that the farmer was insured against damage or loss to his growing crops "when caused by the elements including frost, winterkill, flood, drought, insects or disease but excluding loss or damage when caused by fire, hail, wind or tornado, or failure of seed to germinate or failure of insured to properly prepare the ground for seeding or to properly seed, cultivate and harvest said crops.



The Problem Is, How to Insure Prosperity

The amount of insurance which a farmer was permitted to take out was based upon a schedule of costs estimated by him in his application. These estimates were made on a per acre basis and included cost of plowing, discing, harrowing, rolling, seeding, seed, cultivating and harvesting together with an estimate of fair rental value. A conservative percentage of the sum of these estimated expenses was then taken as the amount of insurance per acre, and when multiplied by the acreage gave the total amount of insurance.

If a total loss occurred the insured was to receive the total amount of insurance unless he chose to abandon the crop early in the season and reseed to some other crop in which event he would receive an amount equal only to his actual outlays to date. In the event of a partial loss, the adjustment was the difference between the amount of insurance and the actual market value of the damaged crop at the time of harvest. It is clear, therefore, that the aim of this policy was to indemnify the insured for the actual loss he would sustain in planting and cultivating his crops, whether the loss be partial or complete. The contract was called a crop investment policy.

TWO major difficulties were encountered. How could an accurate estimate of these costs of plowing, cultivating, etc. be made? Varieties in estimated costs were as numerous as the applications for insurance and often the estimates seemed to bear an inverse relation to the applicant's skill as a farmer and to the value of his land.

The other difficulty grew out of the fact that most of the crops sustained a partial damage of some kind due to some one or more of the hazards insured against and where this occurred the company found in adjusting the claim that it was insuring the farmer to a large extent against a decline in the market value of the insured crop. In the spring of 1920, farm prices were high and the company's equity in the prospective crop appeared to be ample. But it will be recalled that this particular year after June witnessed drastic declines in prices in almost all lines and particularly in farm products. As a result, when an adjustment was made

(*Continued on page 31*)

Seasonal Variation in the Fire Loss

Critical Comparison of the Conflagration Hazards from Sundry Causes in the Summer and Winter Months

By RUTH L. MORGAN

Publication Approved by the Director of the Bureau of Standards of the United States Department of Commerce

TABULATIONS of the monthly fire losses of the United States and Canada and of several states, individually and combined, over periods of five to ten years show that the fire departments are called out to fight a greater number of fires throughout the winter months than during the remainder of the year. The number of fires and the corresponding amount of losses reach high peaks during the periods when heating plants are in operation. However, heating plants alone cannot bear all the burden of increase of one of the Nation's greatest economic losses. Investigation shows that fires from several other causes are also more frequent in the colder months of the year.

Comparable statistics of fires and their losses are difficult to obtain owing to the diversity of methods of collection and their relative completeness.

IN ORDER to show the relative importance of the various causes there are given in Fig. 1 the maximum, minimum and average annual losses from each of twenty known causes occurring during the period 1921-25, inclusive, taken from the loss reports of the Actuarial Bureau of the National Board of Fire Underwriters. It will be noted that the greatest losses from any known cause are those attributable to a secondary cause, exposure, while the highest losses from primary causes are from matches-smoking, and the several causes incident to heating, such as chimneys, flues, stoves, pipes, furnaces, sparks on roofs, and hot ashes, coals and open fires.

In making estimates of the total loss and Actuarial Bureau adds to the reported losses here shown 25 per cent for unreported losses.

The losses from unknown causes are not shown in the figure, but during the five-year period averages $186,023,255 per year, being at a minimum in 1921 with $175,584,208 and a maximum in 1925 with $199,179,533.

Since the Actuarial Bureau, the best general source of fire loss records, does not summarize the losses according to months their figures cannot be made the basis of a study of seasonal variations.

Statistics from Press Reports for the United States and Canada

THE Journal of Commerce and Commercial Bulletin, New York, publishes daily the press reports of fire losses of the United States and Canada and makes a combined summary at the end of each month. Reports of Canadian fire losses are published weekly by the Monetary Times, Toronto. While no great accuracy is claimed for the loss totals, they without doubt give reliable information on the seasonal and yearly trend.

Reports of the number of fires resulting in losses of $10,000 or more were published by The Journal of Commerce for a number of years and in Fig. 2 is shown the average number of such fires per month for the six-year period, 1913-1918, inclusive. With an arbitrary division of the year into two parts, the colder period, when heating plants are normally in operation, covering October to March, inclusive, and the warmer period, April to September, inclusive, approximately 62.5 per cent of the number of these fires occurring during the entire year originate in the six colder months and 37.5 per cent during the warmer months.

The average monthly losses over the ten-year period 1917-26, inclusive, as obtained from the same source, are also shown in Fig. 2. Following the same division of the year, the variation in losses is seen to be less pronounced than in the number of fires, approximately 44 per cent of the average annual loss occurring in the six warmer months and 56 per cent during the six colder months.

In Fig. 2 are also shown the average monthly losses in Canada covering the same period, obtained from the Monetary Times. It appears that slightly less than ten per cent of the total losses for the two countries occur in Canada.

North Carolina, South Dakota, Kansas, and the District of Columbina, Combined

FIG. 3 shows the average number of fires each month from all causes in an area comprising North Carolina, South Dakota, Kansas and the District of Columbia, based on reports covering the following periods: Kansas, six years, 1920-25, in-

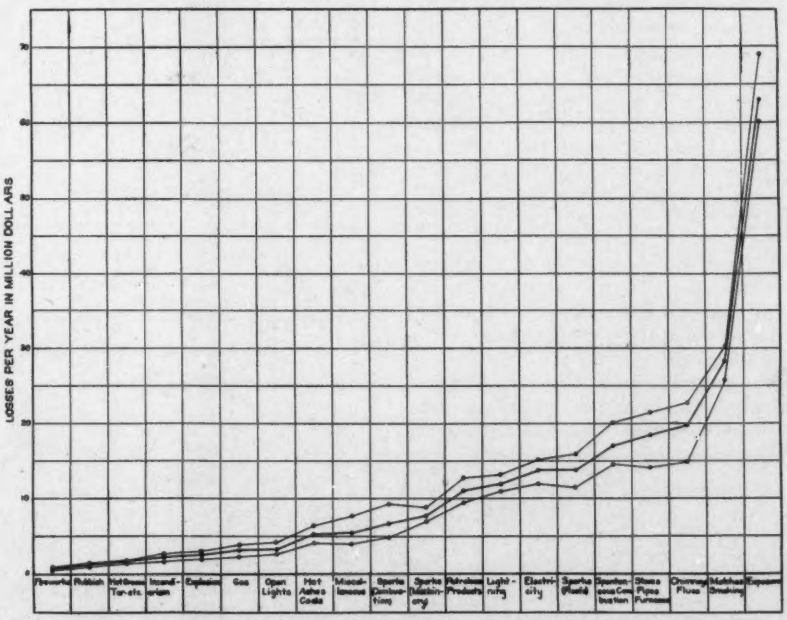


Fig. 1—Yearly Losses in the United States from 20 Causes as Reported by the Actuarial Bureau of the National Board of Fire Underwriters, 1921-25, inclusive

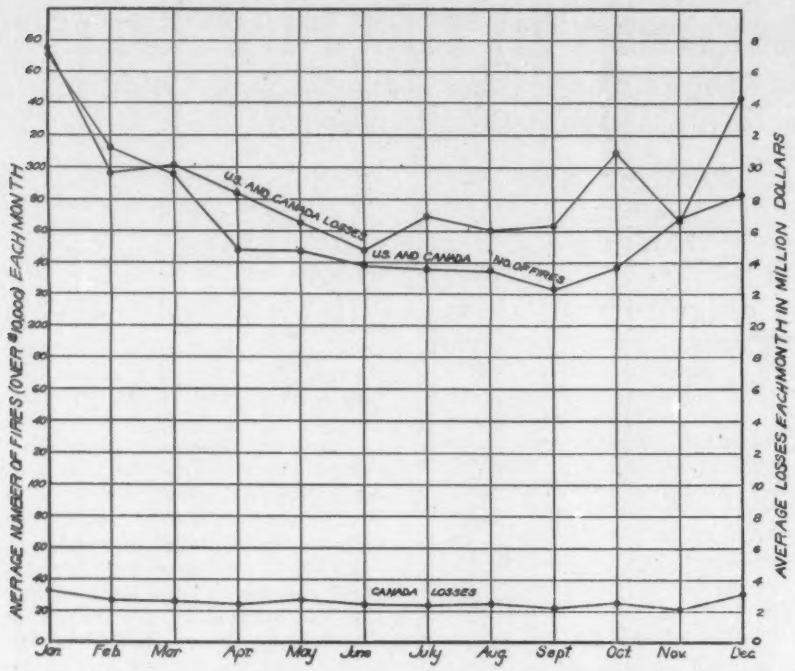


Fig. 2—Average losses and number of fires by months in the United States and Canada from all causes as reported by the Journal of Commerce and the Monetary Times.

clusive; South Dakota, seven years, 1920-26, inclusive; North Carolina, five years, 1922-26, inclusive; District of Columbia, seven years, 1920-26, inclusive.

The figures, on which the averages for the state of Kansas are based, were obtained from the annual reports of the State Fire Marshal of this state, while those for the states of North Carolina and South Dakota were taken from the bulletins which are issued monthly by the State Insurance Commissioner and State Fire Marshal of these two states, respectively. The latter officers supplied figures not given in the bulletins or for which bulletins were no longer available, thus making possible a continuous record for the number of years shown. The figures for the District of Columbia were taken from the monthly reports of the fire marshal of the District. Although other states issue publications giving the number of fires from various causes it was impossible to obtain any records of sufficient continuity to establish averages of value.

For the area indicated approximately 40 per cent of the total number of fires occur in the warmer months to 60 per cent in the colder period.

The seasonal variations in the number of fires from the following ten causes, representing slightly over one-half of the total number of fires occurring in the area described above during the given periods, are illustrated in Figs. 3, 4 and 5; exposure, matches, smoking, heating spontaneous combustion, sparks, electricity, lightning, incendiarism, and rubbish.

Exposure. These fires are reported by the various states cited under the following headings: Kansas, conflagration; North Carolina, adjoining building; South Dakota, exposure. The District of Columbia does not report any fires from a similar cause. As the total number of fires from all causes for the United States and Canada (Fig. 2) and for the combined area of the several states reported (Fig. 3) shows a decrease in the warmer months, it is logical to expect a similar result for the one item of fires from exposure that would be non-existent were it not for the continued vigor of the originating fires. It will be noted (Fig. 3 that the greatest number of exposure fires occur during October and April, probably due to the presence of high winds. The ratio of fires in the warmer period to fires in the colder period attributable to this cause is 43.4 per cent to 56.6 per cent of the total respectively. The number of fires from exposure is approximately 3.3 per cent of the total number of fires occurring in the combined area of the three states during the periods named.

Heating. The average number of fires each month caused by heating (Fig. 4) shows a continuous and large decrease from January to August and then a steady rise to December. Only 25 per cent of these fires happen in the summer months while the remaining 75 per cent occur during the winter. It is logical to expect a greater number of fires during the period when so many sources of hazard exist. However, it would seem that with increased caution and attention to heating plants the winter high points could be materially reduced. Of the total number of fires reported by the three states named and the District of Columbia for the given period 9.8 per cent are caused by heating, including chimneys, flues, stoves, pipes, and furnaces.

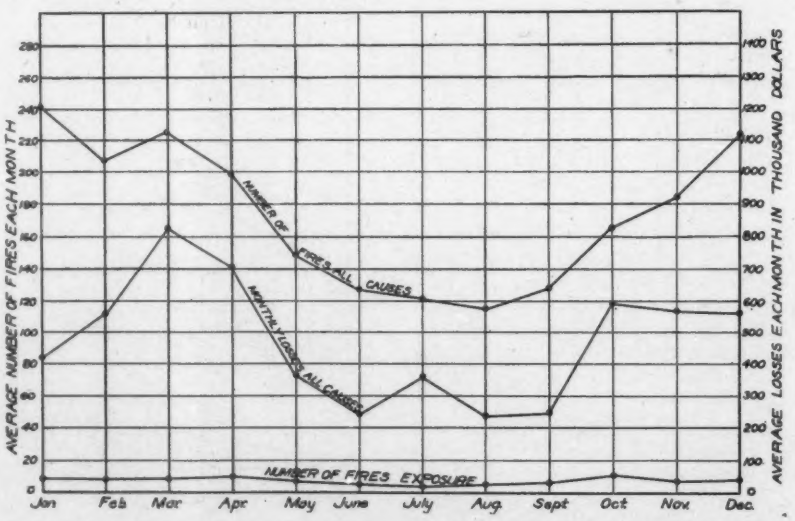


Fig. 3—Average losses and number of fires by months from all causes in combined area of (3) states and District of Columbia over period 1917-26 inclusive.

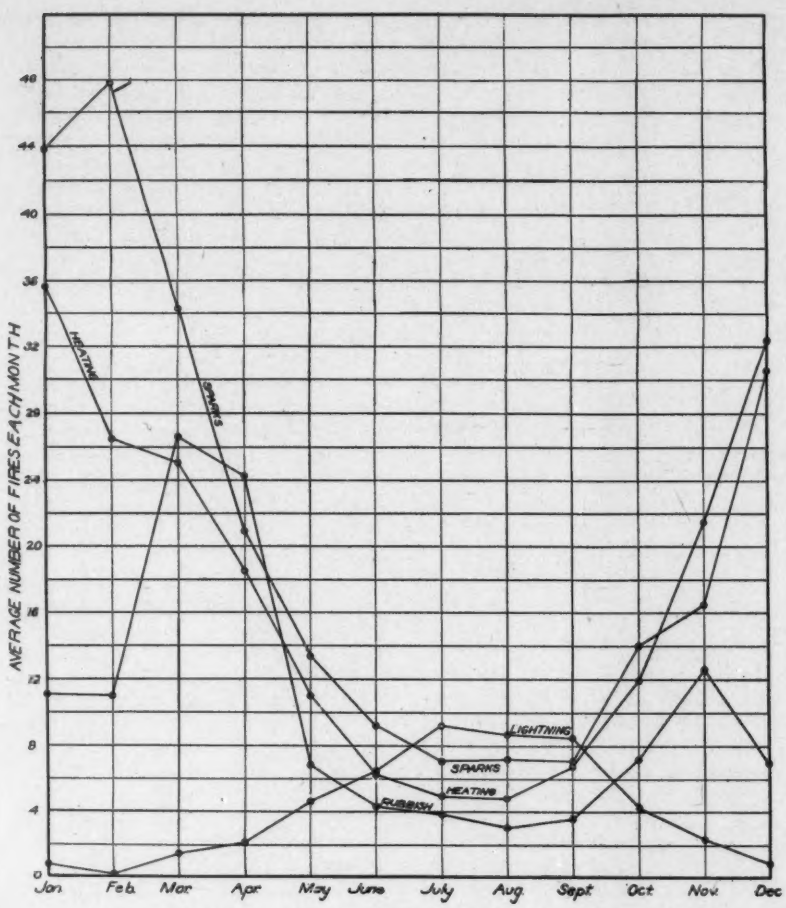


Fig. 4—Average number of fires each per month from (4) four causes showing large seasonal variation in the combined area of (3) states and District of Columbia.

Sparks. The various terms used in reporting fires from sparks have made it difficult to determine those which should rightly fall into the same classification. However, those included in the figures represented in Fig. 4 were reported by the several states as follows: South Dakota, "sparks," with no qualifying term; North Carolina, "engine sparks"; Kansas, two items, "sparks on roof" and "sparks from running machinery"; District of Columbia "sparks falling on combustibles." The reports for the six warmer months show only 26 per cent of the total, the remaining 74 per cent appearing during the October-March period. It is to be noted that sparks are responsible for a greater percentage of the total number of fires than any other individual known cause, with 12 per cent.

Rubbish. Fires caused by rubbish (Fig. 4), are reported in Kansas as being caused by "rubbish and litter," in North Carolina by "burning trash," in the District of Columbia as "rubbish" and "trash," also including "bonfires, brush, grass and leaves," and in South Dakota as "rubbish." High winds and bonfires are probably the most important contributing factors to the peaks reached during March and April. The fires in the colder period from this cause are 62 per cent of the total and in the warmer period 38 per cent. The total fires from rubbish are 5.8 per cent of the total number from all causes for the given period and area.

Lightning. As would be expected, the number of fires caused by lightning shows a decided increase during the warmer period, (Fig. 4), with July and August having the highest averages and January and February the lowest. The proportion of lightning fires occurring during the warmer period is 80 per cent to 20 per cent during the colder period. This variation, although counter to the general trend, is greater than from any other single cause. However, only 2.3 per cent of the total fires from all causes are attributable to lightning.

While the number of fires from each of the five preceding causes show decided or moderate variation between the colder and warmer months, the following five items show only slight variation along seasonal lines.

Matches-Smoking. According to the figures given out by the National Board of Fire Underwriters of the losses attributable to known causes that of the combination "matches-smoking" is second highest. As the numbers of fires thus caused were reported separately by the states, the averages by months have been shown separately in Fig. 5. These averages indicate that these two hazards remain nearly constant during the entire year. Fires from smoking show 46 per cent of the total during the colder months and 54 per cent during the warmer months, while for matches the ratio is reversed, being 53 per cent in the colder period and 47 per cent in the warmer period. Fires caused by smoking account for 5.0 per cent of the total from all causes and matches 5.5 per cent.

Incendiarism. Only 1.3 per cent of the total fires from all causes are reported as being attributable to incendiarism, and although the variation between the number occurring in the colder and the warmer periods is slight, being 53 per cent and 47 per cent, respectively, it will be noted that the general tendency toward winter increases is followed (Fig. 5).

(Continued on page 30)

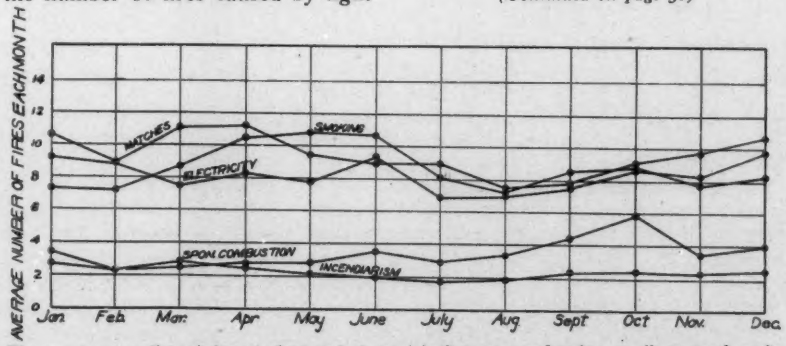


Fig. 5—Average No. of fires each month from (5) five causes showing small seasonal variation in combined area of (a) states and District of Columbia.

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Suggesting a Good Resolution for 1928

THERE is much to be said for the old-fashioned habit of beginning a New Year with good resolutions. The humorist, with no little justification in human experience, may laugh at this effort of frail mankind to mend its ways, but, when the laugh is over, the fact remains that it is only by resolving well that we do better. And the room for improvement in most of us is the biggest room we have.

So, at the risk of the smile which may come to your lips when you read the caption of this editorial, we venture to offer a suggestion for a good resolution for 1928. Let us phrase it formally, and with all the dignity which the idea merits:—

Whereas, in the past the keen competition which naturally characterizes the business of insurance has induced certain of those engaged in it to resort to detraction of other systems than their own, misrepresenting and maligning them, and thereby misleading the public and arousing distrust and suspicion,

Therefore, Be It Resolved, that in this Good Year of Opportunity, One Thousand and Nine Hundred and Twenty-eight, all of us who are engaged in promoting the public welfare by advocating or selling insurance will endeavor to play the game fairly, to deal justly and truthfully with competitors, to avoid misstatement either in exaggeration or depreciation.

To the end that confidence may be strengthened, and that every effort made in good faith may win its full measure of reward.

We are prompted to offer this resolution, which we trust will meet with unanimous approval, by the fact that we have noted from time to time in publications, which shall be nameless, a treatment of certain phases of insurance bearing the evidences of prejudice, and of a prejudice which did not scruple over much as to the things it said. Life is too short to devote time to answering such statements as they appear, and the acrimony which is engendered by controversy of this sort, in any case, does more injury than the good which direct reply may hope to accomplish. In the long run truth justifies itself and the plan which has merit demonstrates its value in spite of all detraction. For the most part, therefore, we are content to abide the vindication for facts which experience inevitably brings.

But we regret, as every sincere believer in insurance must regret, the ill effect of misrepresentation in undermining public confidence. It is evident that this effect is not limited to the particular type or phase of insurance which is made the object of unfair attack. The whole idea of insurance suffers in the minds of the people, and men and women everywhere are inclined to reach the opinion that in a vocation where such methods as these are followed it is futile to look for good faith.

That impression, of course, is utterly unjust to the thousands of high-minded men and the hundreds of sound institutions engaged in providing protection against hazard. It does a grave wrong to the fundamental conception of insurance, which is, in essence, the same, whatever may be the system—the use of fore thought to establish certainty of adequate compensation in the event of loss thru calculable risk. It works cruel injury to the public in-so-far as it may deter some from availing themselves of any form of insurance by arousing their suspicion of the value of insurance in general.

Every business man knows what happens in his mind when a salesman, eager to obtain his order, denounces a competitor. He may raise in the thought of the potential customer a question as to the merits of his rival's commodity, but, at the same time, he raises quite as big a question as to the merits of his own. The customer will say to himself, "An article which can be sold only by knocking that of a competitor is, probably, of less worth than it pretends to be. If the competing articles were not finding wide favor with buyers this salesman would think it unnecessary to run it down. I had better have a look at the commodity he is discounting before I go any further in considering the purchase of the one he recommends." Or the element of general doubt raised by this vicious method may be so strong that the prospective customer simply puts the whole question of purchase out of his mind. He decides to get along without any article of the sort under discussion.

The modern science of salesmanship recognizes the "knocker" as a pestilential detriment to business. Its emphasis is placed upon the positive merits of the thing to be sold, not upon the defects, actual or imaginary, in some other similar article. And this is sound psychology. The man who deals fairly with a competitor awakens goodwill and confidence for himself and his own goods. He makes friends for business, and all business, including his own, benefits as a consequence.

The stimulating of public confidence in the principle of insurance will be the aim of every intelligent insurance man, and of every wisely conducted insurance agency and journal. Competing systems and companies will continue, as they should, to urge their own particular claims for public patronage; they will stress the advantages they offer; but they will avoid the sort of argument which is likely to make people question the essential soundness of the insurance idea, or to give rise to such confusion of thought on the whole question of insurance that, rather than decide for any kind, the bewildered prospect will decide for none.

The welfare of the insurance business as a whole demands an honest and fair-minded effort to educate all the people in the underlying conception of provision against the risks to which all are exposed.

Life Lights Against a Business Background

What Shall We Do With the Extra Day?

By S. J. DUNCAN-CLARK

ONE of the interesting happenings as an old year drags its somewhat weary limbs across the limbo line which marks its passing is the arrival of the new calendars. I can always count on one of my insurance friends to see that I am provided with a numbered chart of the latest product from Time's factory—or should I call it a laboratory? I think, perhaps, the latter word is the better.

The first of these charts came to me in a bundle of Christmas mail, and when I saw the figures, 1-9-2-8, conspicuously displayed upon it I at once began a simple mathematical calculation taught me when I was a school boy. If the year can be divided by four without remainder it is a Leap Year, except when it is a century year, that is to say ending with two noughts—so ran the rule. Now four into 1928 goes 482 times exactly, hence this new contribution to my life-store is a Leap year; that is to say it has 366 days instead of 365—an extra day; full measure, pressed down and running over.

Now what shall I do with the extra day?

TIME is the substance of life; the raw material out of which we shape existence. The manner in which time is used gives life its quality. Nor is that all. What I do with the immediate minute determines, in large degree, what will be the character of the minutes which follow it; what I do with any one day may color all the days which come after. It is often true that we cannot do what we would like to do with today merely because we did not do what we ought to have done yesterday. It is often true that tomorrow approaches us with an attitude of foreboding, because today we have made a mess of the opportunity which presented itself, or neglected the duty that clamored for attention.

That is the peculiar fact about time—there is a vital relationship in all its moments, and the nature of the relationship — whether it makes for our tranquility of mind, health of body, prosperity of circumstances, or whether it makes for discord and illness and misfortune—depends upon our employment of it.

The days of a New Year may be regarded as a series of empty vessels coming to us one by one to be filled; but we soon discover that some of them we have filled, or partly filled, before they actually reach our hands. We discover that, at least, we have tinctured them, so that no matter what we put into this day when it arrives it will have a bitter taste, or, happily, a sweetness that no accident can wholly mar.

There is something in the old idea of Fate, but not what many have supposed, that it is the inexorable shaping of destiny for our days by some Power wholly beyond our control. The ancient Greek idea of the Fates weaving human fortunes from their distaffs, and visiting upon men futures arbitrarily assigned to them, which, willy-nilly, they must accept, is not true to human experience. Rather I am my own Fate, making my own future, shaping my own destiny, sowing today the seed which will bear its inevitable harvest of good or ill. I cannot think or speak or act without consequence, and I can, within certain limitations, think and speak and act as I choose. If I cannot do all that I may please to do, I can at least put into what I can do the quality which will make it count for worth and happiness.

And so, I ask myself, and all who do me the honor of reading this article, "What shall I do with this extra day— this Leap year day?"

The fact that on the attractive and colorful calendar which I have hung upon my office wall this extra day is shown tucked in at the end of February, in attempted compensation for a month which has always been short-changed, makes no real difference. I do not have to wait until February 29 arrives to find that extra day. It is mine now, and the earlier I decided on what to do with it, and put that decision into effect, the better.

I SUPPOSE a good many times in the past three years—that is since the last Leap year—I have said to myself concerning some task or some cherished purpose, "That is a thing I am going to do when I get a day." If I were to list those things now, I would need for all of them not one day, but several, a week, perhaps a month. Shall I pick out some one of them, and dedicate this extra day to that?

I might do worse; and yet I might do better. It seems to me there is a use to which this extra day can be put which will give it greater value than if employed in any other way. It occurs to me to divide it into two portions, and to spend one half of it in taking stock, not of my business, but of myself, and the other half in planning.

I rather feel a man ought not to let himself run longer than four years without taking stock of himself. He could not let his business run that long without taking stock of it, and he is more important than his business. His business, after all, is only a means of making his life. It is the latter that really counts. Now I can use a part of this day in asking just what has happened to me in the last four years—not to my circumstances, but to ME. Have I something to show of gain in the quality of life, in the development of personality, in the enriching of mind, in the broadening and deepening of sympathy? Have the contacts of mind and soul with what is good and fine and beautiful multiplied? Have I made new friends, have I strengthened old friendships? Have I found life more satisfying, more significant? Never mind — now — the bigger house, the better car, the larger income. What spiritual values have I added to life?

AND then the second portion of the extra day I will give to planning. Perhaps a good deal has been hap-hazard, go-as-you-please, loose ended, especially in the use of my leisure. I shall plan to make my leisure count for more of the real and enduring values, and I shall plan to make my work move smoothly and systematically so that there may be more leisure for these precious ends of living. If I can do these things with this Leap year day I will make it an investment paying dividends on every other day until another Leap year rolls around.

Insurance Reserves

A Financial Factor Which Constitutes One of the Chief Problems of Insurance Companies

By RALPH H. BLANCHARD
Professor of Insurance, Columbia University

IN most lines of business, including insurance, the synchronization of income and disbursements is imperfect.

Manufacturers must purchase materials and pay wages in advance of the sale of their product and must usually extend credit to purchasers. Merchants are in somewhat the same position, particularly if they take advantage of opportunities for favorable cash purchases and pay their bills promptly. To the extent that this results in a lag between outgo and income, working capital must be provided, either by accumulation of funds or by borrowing.

Insurance companies find themselves in a very different position. Income, in large measure, precedes the outgo which is directly related to it. In a going insurance concern there is, normally, a healthy excess of income over disbursements on account of losses and expenses during any fiscal period. But, since premiums are generally paid in advance, the insurance company must always be prepared to meet the obligations in respect of which premiums have been received without depending on this normal receipt of current premiums to cover current disbursements. A company should keep itself in such a position as will enable it to meet all its obligations to the end of the term of all policies on its books even though it should entirely cease writing new business and should thus shut off a large share of its income.

In the insurance business this end is accomplished by the setting up of *reserves* of which the two most important are the *unearned premium reserve* and the *loss reserve*.

The unearned premium reserve is designed specifically to adjust the finances of insurance companies to the situation created by advance payment for their services. It is built on the theory that an insurance carrier *earns* a premium received by it in the same proportion that the period for which it has given protection under the contract bears to the total period for which the contract is to run and for which the premium was paid. For example, if a premium of $100 is paid for a contract to run two years, $25 would be earned at the end of six months, $75 remaining unearned. In practically all, if not all lines except life insurance, carriers are required by law to set up as a liability reserves based on this theory. The actual calculation of such reserves for the annual statement is approximate, it being assumed, in most cases, that all policies written during the preceding year have, on December 31, been on the books for six months. This assumption produces reserves sufficiently accurate for practical purposes and obviates the labor of calculating an exact reserve on each policy, resulting in a considerable expense saving.[1]

[1] A later article will consider in detail methods of calculating the unearned premium reserve and their practical effect.

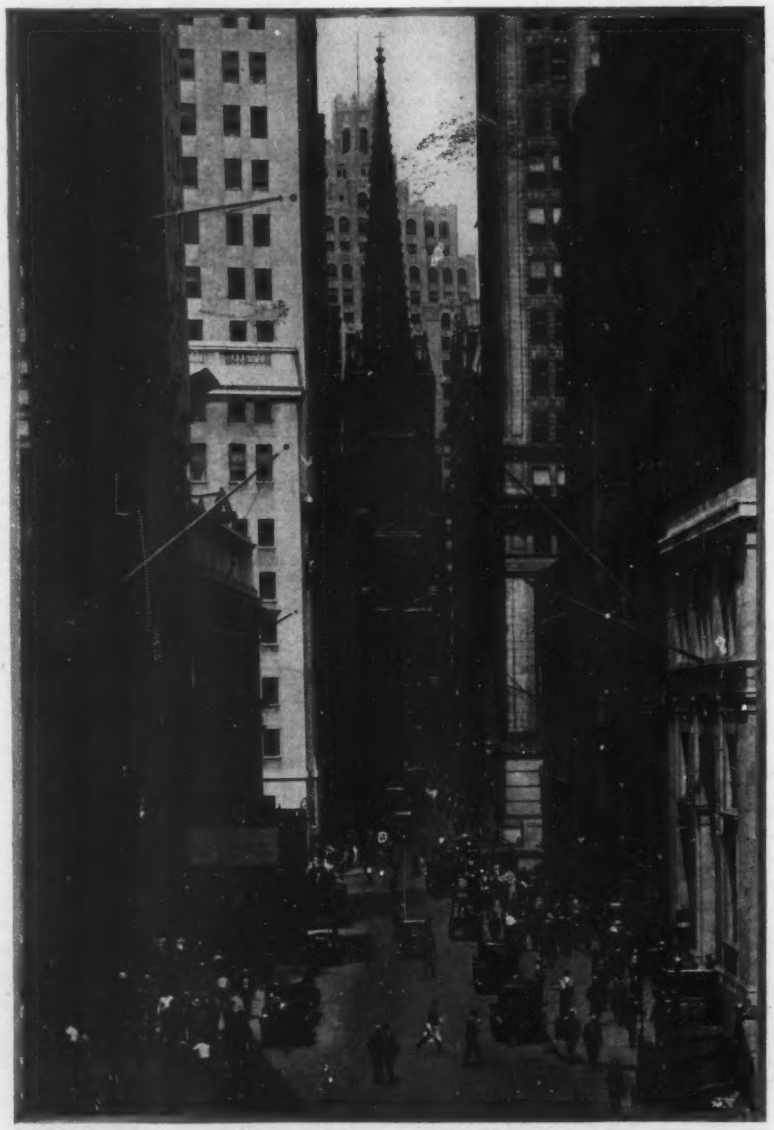


Photo by U. & U.

Wall Street, America's Financial Center—Trinity Church in Background

IF the payment of losses and expenses on account of contracts covering a given period proceeded *pari passu* with the release of funds from the unearned premium reserve, the requirement of such a reserve might be sufficient to preserve a proper balance between income and outgo. But the losses and, in less measure, the expenses of insurance companies tend to lag behind the period covered by the contract; to such an extent, in some lines, that many years may elapse after the expiration of a contract before the losses and expenses incurred under that contract have finally been paid in full.

Examples of extreme cases of this sort are found in workmen's compensation insurance where the carrier may be liable for the payment of a life annuity to an injured workman, in certain government bonds under which losses are covered without limit on the time within which they must be discovered, in liability insurance where suits for damages may be fought for years in the courts only to end in a large verdict payable by the carrier. In fire insurance, and other lines covering loss due to the destruction of, or damage to the insured's property, there may be delay in settlement although it is normally of short duration if a claim is not contested. Marine insurance claims are ordinarily settled within two years of the expiration of the contract.

Examples might be multiplied and contrasts drawn between lines of insurance but in all there is the necessity of setting aside reserves for future payment of losses and loss expenses. The calculation of these reserves is one of the chief problems of the casualty and life insurance business. There has consequently been much discussion and experimentation in this field, and much remains to be accomplished.

Basically, all reserves must find their justification in experience. To prophesy with any degree of accuracy that it will require a given amount of money to meet the future obligations of a carrier, it is necessary to know, either statistically or through personal contact, what has happened in similar situations in the past; it is necessary likewise to know what will be the probable variation of conditions between the past and the future. Further, reserves must be sufficiently large to make the security of the company and of its policyholders undoubted; but not so large as to divert funds needlessly from other purposes and create a false picture of costs.

LaSalle Street, Chicago, Another Great Center of Capital in America

PRESENTED with this problem of calculating reserves, what methods may be employed for its solution? If the amount which must be paid has been determined it will be set aside pending payment. If a claim is in controversy it is reasonable in many lines of insurance to set aside, pending settlement, the entire amount which may become payable. In other lines, where controversy and litigation are common, there may properly be set aside an amount equal to the average payable on account of the class of claims in question. This amount will depend in some degree on the stage at which the reserve is set up. In liability insurance, for example, the longer a claim has been in litigation, the larger the probable amount which will be required finally to reach a settlement and make such payment as may be necessary. These *average values* are based on experience with similar claims in the past, due allowance being made for changes in circumstances. For example, if, on the average, it has cost in the past $1500 to bring to final settlement suits begun more than ten years prior to the date of setting up the reserve, and if the cost of conducting suits and the amount of verdicts is tending to increase, it will be necessary to set aside something more than $1500 for each suit in this stage. What this extra amount shall be is a matter of judgment guided by such statistics as are available.

In many cases statistics of past losses are so fragmentary, conditions have changed so radically, or each case is so peculiar to itself that recorded experience is unavailable even as an approximate guide for the calculation of reserves. In such cases they must be set up by *individual estimate*. This means, ordinarily, that

experienced claim men will, on the basis of their personal judgment, which reflects experience in that field, estimate the probable cost of final settlement of claims. Such a method is open to wide margins of error but, in the absence of figures, it is the only one available. Experience with such estimates will, however, indicate the tendencies of individuals and of groups to over-or under-estimate, tendencies which may be corrected in the final figures appearing in the statement. Individual estimates are largely relied upon in the bonding business and in the less highly developed forms of casualty insurance.

Insurance experience may be indirectly the basis of reserves via the premium rate. Suppose that premium rates have been carefully calculated and that in a given type of insurance 60% of the rate has been alloted to the payment of losses and loss expenses. Suppose further that a given carrier has earned $1,000,000 in premiums for this line of insurance. If the rate is correct, $600,000 is required to pay losses and loss expenses. At any given time there will be required in the future, on account of this business, whatever amount has not already been paid out. Hence the reserve will be $600,000 minus the amount already paid. This *loss ratio* method is applicable only where rates are held to rigid requirements and must be subject to correction for changes in conditions not foreseen when the rates were made.

THERE remains one method based directly on experience, and independent of personal judgment and variations in rates, the *tabular method*. On the basis of tables showing the probable happenings of the future, and derived from experience, amounts may be set aside to meet financial obligations dependent on those happenings. This method finds its best illustration in life insurance where mortality tables indicate probable future experience. On the basis of such tables the actuary calculates what amounts will probably be payable at various times, and sufficient funds, after allowance for interest and further premium payments by insured, are segregated.

Where the methods of calculation are rough or where the time element is small the interest element may be disregarded, but in calculations of reasonable accuracy or where the period for which reserves are set up make interest return an important financial factor, the reserve will, at the time of valuation, be equal to the *present value* of expected future payments, the sum which, with interest, will produce the amounts necessary to make payments when they are required. In long term obligations, such as life insurance contracts, not only is the interest element of importance but even a variation in the assumed rate of interest may make a considerable difference in the reserve. Here, as elsewhere, a conservative rate should be chosen but not one which recognizes conservatism as an end in itself.

Reserves other than those for unearned premiums and losses are also maintained by insurance carriers but they are of considerably less significance. Certain of these warrant mention. Reserves for *depreciation* of real estate and/or securities are carried to guard against over-estimation of the value of such assets. *Dividend equalization* reserves provide for the maintenance of a scale of dividends, fluctuation of which might adversely affect the carrier's standing with policyholders. *Contingency* reserves are by way of preparation for unforeseen happenings; they are actually a specially labeled portion of surplus. In life insurance, the entire surplus is often so designated. Certain fire insurance companies have, under the New York law, set up special funds (*special reserve* and *guaranty surplus*) the purpose of which is to enable them to meet otherwise fatal conflagration losses and still continue in business.

Unearned premium reserves and, in general, loss reserves are required by state laws which establish certain minima or vest the commissioner of insurance with power to prescribe. Additional reserves are voluntary. All reserves appear on the liability side of the annual statement and are usually the principal items to be found there. Since they are mostly required by the state, they are the principal test of a carrier's solvency. To avoid liquidation they must be offset by assets approved by the state.

ANNUAL MEETING
of the
FEDERATION
Of Mutual Fire Insurance Companies
and the
NATIONAL ASSOCIATION
Of Mutual Insurance Companies
Is To Be Held In
MILWAUKEE
OCT. 1 to 4, 1928

IF "solvency" be interpreted to mean reasonable assurance that a carrier will be able to meet its obligations, the reserves required for unearned premiums and for life insurance are, in general, extremely conservative. In the normal "running off" of the business which these reserves represent there will usually be a release of funds to surplus, since something less than the total reserve will be required to meet the obligations for which it is earmarked. To a certain extent, therefore, the uninterpreted annual statement presents an untrue picture of a carrier's financail position. But fortunately the error is on the side of soundness.

In the more experimental types of insurance, and in lines subject to considerable variations, loss reserves and rates are sometimes found to be inadquate. To the extent that this is the case any technical excess in the unearned premium reserve represents a factor of safety, and continual testing of methods and results is necessary to hold loss reserves to the accomplishment of their purpose. That insurance carriers have such a splendid record of financial success is evidence of the ability with which this work has been done by executives and supervising officials.

A study of the development of methods for calculating reserves, and of business and governmental policy toward such funds makes clear the supreme necessity of continued vigilence to the end that accuracy and soundness may be accomplished. This requires constant critical analysis of reserve methods which have not proved their reliability as a basis for conservative estimates of future obligations, as well as of methods which may have over-run the requirements of safety and become unduly onerous.

Do You Understand Co-Insurance?

(*Continued from page 10*)

TABLE NO. 1

The Settlement Which Would Have Been Made Had Mr. Merchant Fulfilled the Contract.

BUILDING

Value of property insured	$ 60,000.00		
Insurance (which should have been carried)	48,000.00		
Loss		$ 15,000.00	
Insurance Companies would have paid			$ 15,000.00

CONTENTS

Value of property insured	$100,000.00		
Insurance (which should have been carried)	80,000.00		
Loss		$ 20,000.00	
Insurance companies would have paid			$ 20,000.00
		$ 35,000.00	$ 35,000.00

TABLE NO 2

The Settlement Which Would Have Been Made Without Co-Insurance

BUILDING

Value of property insured	$ 60,000.00		
Insurance (actually carried)	40,000.00		
Loss		$ 15,000.00	
Insurance companies would have paid			$ 15,000.00

CONTENTS

Value of property insured	$100,000.00		
Insurance (actually carried)	64,000.00		
Loss		$ 20,000.00	
Insurance companies would have paid			$ 20,000.00
		$ 35,000.00	$ 35,000.00

TABLE NO. 3

The Settlement Actually Made Under the Conditions Existing at Time of Loss.

BUILDING

Value of property insured	$ 60,000.00		
Insurance (actually carried)	40,000.00		
Loss		$ 15,000.00	
Insurance companies paid in proportion as the insurance carried, $40,000, bears to the insurance required under the terms of the eighty per cent co-insurance clause, $48,000, or 5/6 of loss			$ 12,500.00
Mr. Merchant, as his own personal insurance company, bears his proportion, as the deficit, $8,000, bears to the required amount, $48,000, or 1/6 of the loss			$ 2,500.00

CONTENTS

Value of property insured	$100,000.00		
Insurance (actually carried)	64,000.00		
Loss		$ 20,000.00	
Insurance companies pay in proportion as the insurance carried, $64,000 bears to the insurance required under the terms of the eighty per cent co-insurance clause, $80,000, or 4/5 of loss			$ 16,000.00
Mr. Merchant, as his own personal insurance company, bears his proportion, as the deficit, $16,000, bears to the required amount, $80,000, or 1/5 of the loss			$ 4,000.00
		$ 35,000.00	$ 35,000.00

To further clarify this situation I will put the settlement in another analysis under Table No. 4.

TABLE NO. 4

The Settlement Actually Made Under the Conditions Existing at Time of Loss.

BUILDING

Value of property insured	$ 60,000.00		
Insurance required under 80 per cent co-insurance clause	48,000.00		
Insurance carried by companies	40,000.00		
Insurance assumed by Mr. Merchant	8,000.00		
Loss		$ 15,000.00	
Companies pay 5/6 of Loss			$ 12,500.00
Mr. Merchant pays 1/6 of loss			2,500.00

CONTENTS

Value of property insured	$100,000.00		
Insurance required under 80 per cent co-insurance clause	80,000.00		
Insurance carried by companies	64,000.00		
Insurance assumed by Mr. Merchant	16,000.00		
Loss		$ 20,000.00	
Companies pay 4/5 of loss			$ 16,000.00
Mr. Merchant pays 1/5 of loss			4,000.00
		$ 35,000.00	$ 35,000.00

a careful survey of the structure, and analyze in detail the cost to erect a like building, at the prevailing costs of material and labor, taking into consideration the usual depreciation. Such an estimate should be made about every two years during time cycles of rapid fluctuation in values and once every five to ten years during normal, non-fluctuating periods.

Regarding the protection on stock, he should have had a special division in his excellent accounting system, for insurance. As his stock increased and the values ran higher, additional insurance should have been placed proportionately, and cancelled out as the stock values dropped off again. The insurance should have been kept up to eighty percent of value or, to be absolutely safe, five or ten percent better than the proportion required under the co-insurance agreement. If he had carried out such a plan he would have collected in full from the insurance companies for the partial loss.

Herein Lies the Danger.

NOW herein lies the danger of the co-insurance plan. The great majority of fire losses are partial and it is with the partial loss that the co-insurance agreement works out in principle so often to the detriment and loss of the assured. I do not believe it is exaggerating in the least to say that the majority of people who are carrying their insurance on the co-insurance plan are doing so without understanding the first principles of the clause. This is not to be wondered at because I have found very few insurance agents who understand co-insurance.

Because of competition, it has been sold to Mr. Merchant, simply as a means of reducing the rates and premiums. Because of such facts the insurance companies have had considerable trouble with assureds in adjustments of losses where the co-insurance clause is operative.

Co-insurance is an excellent plan and affords adequate protection to values for the assured and a more equitable distribution of losses for the companies. It is desirable, providing you understand it, comply with its conditions, and safeguard your interests in those conditions by having a place in the accounting department whereby you will always take care of insurance fluctuations along with the fluctuations of values insured. Don't Guess—Be sure.

Of course in case of total loss of property insured, the co-insurance agreement is automatically cancelled and insurance is paid in full. It is

(*Continued on page 30*)

Property and Casualty Insurance

Side Lights on the Importance of Closer Understanding Between All Parties Connected With These Branches of Underwriting

By AVARD L. BISHOP

Professor of Business Administration, Yale University

ARTICLE VI.

The Significance of Valued-Policy Laws In Fire Insurance

ALTHOUGH fire insurance contracts have never been completely standardized, the vast majority of those in effect nowadays are, apart from such alterations and additions as are made by the attachment of forms and endorsements, strikingly similar. They conform, in many essential particulars, to the present New York standard policy, some features of which were discussed in an earlier article in this series. This form of contract places the fire insurance company's liability at an amount not exceeding $X for direct loss and damage by fire.

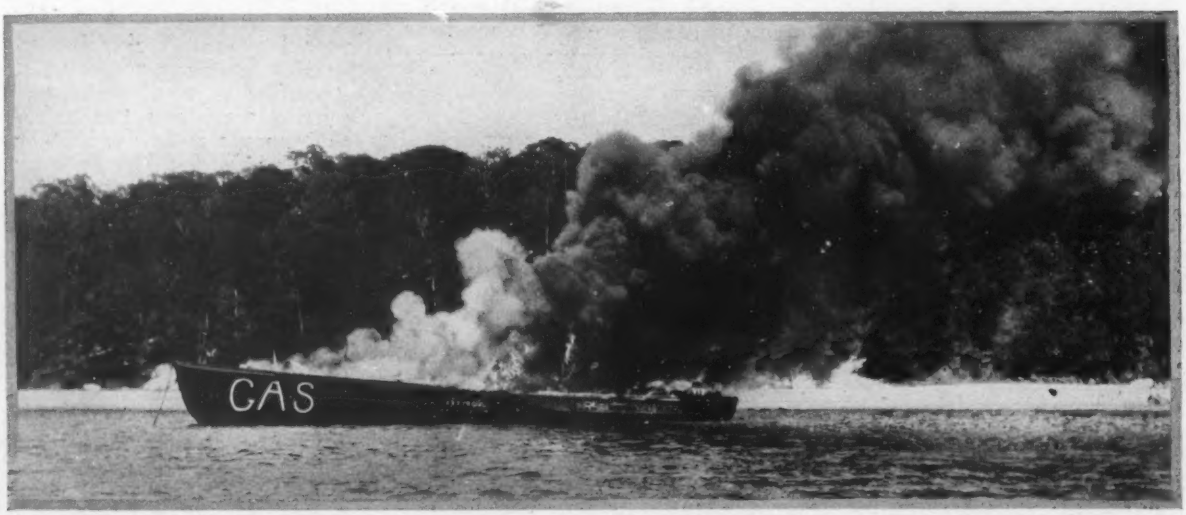
It is well known, however, by those who understand the fundamentals of sound insurance, that this is the outside limit of the company's liability in any particular case. The liability, as stated in the policy form is "the actual cash value (ascertained with proper deductions for depreciation) of the property at the time of loss or damage."

LET us assume for purpose of illustration that a fire takes place affecting property whose owner is covered with fire insurance. In the case of a partial loss, which is the usual situation, an adjustment of the loss has to be made in the light of the value of the property destroyed or damaged; and the insured is indemnified for the loss of value as of the time the fire took place. In the case of a total loss, the same general procedure is followed. As stated above, the face value of the policy is the outside or maximum limit for which the company may be held. Accordingly, the loss of property values has to be determined also when the loss is a total one, just as is the case when there is a partial loss; and the insured is then indemnified in full for the loss, provided the estimate does not exceed the face value of the policy. If, however, it is found that the loss was only $9,000, let us say, as of the day the building burned, although the insured had been carrying $10,000 insurance, the liability of the company to the insured, on account of the fire, is $9,000, instead of $10,000. The reader should bear in mind that we have been considering the matter so far purely from the standpoint of the usual interpretation of the contract.

Now it is possible for any particular state to alter the terms of the fire insurance contract by statute. And, inasmuch as our states possess sovereign power with respect to the regulation of insurance and of insurance companies, a law passed by the legislature of any state with respect to any point covered in the policy transcends the policy provision as applied to policies in force in that state. Insurance companies that find their contracts too greatly altered by the legislation of any particular state may withdraw from that state. If, however, they continue to do business in such state they are subject to whatever disagreeable legislation, from the companies' standpoints, is found to exist.

A goodly number of states in legislating with respect to fire insurance have passed, at diffrent times, what are known as valued-policy laws. Such laws still exist in a considerable number of jurisdictions. They have been the object of a great deal of opposition on the part of insurance companies.

THE general character of a valued-policy law may perhaps best be appreciated by quoting from the statutes of one of the states where such a law was passed by the legislature. The essence of it was included in the following brief statement: "A fire insurance policy, in case of a total loss by fire of property insured, shall be held and considered to be a liquidated demand against the company for the full amount of such policy, provided, that the provisions of this article shall not apply to per-



On Land Or Water the Matter of Insurance Should Be One of the First Factors In Safeguarding An Investment

sonal property." Nothing is clearer than the intent of such a law, for it requires the fire insurance company to pay the insured, in the event of a total loss of the risk in question, the so-called face value of the policy. In other words, the subject of insurance becomes evaluated at the time the insurance is effected, not at the time of the loss. It is understood, of course, that the destruction of the property by fire has been accomplished without criminal responsibility of the person insured. A law having the same general significance as the one cited above has been in operation at one time or another in nearly half of the states of the Union. Let us see what is the real significance of such legislation.

One of the most obvious points with respect to a valued-policy law as applied to fire insurance policies is that it cuts directly across a fundamental principle upon which sound fire insurance is based. This principle is that of *indemnifying the insured for his actual loss,* provided he is adequately covered with insurance. In an earlier article entitled "The Fire Insurance Contract," we took occasion to impress as strongly as possible the fact that insurance is indemnity, that the policy is a contract of indemnity, and that the insured in no event should stand to profit from a fire. Now, if by an act of legislature it becomes possible for an individual to buy a policy of insurance for an amount equal to and even exceeding its fair cash value and, even though the property depreciates in value with the process of time, the insurance company must pay the insured, in the event of a total loss, the face value of the policy, the moral hazard in connection with such insured risk becomes abnormally great, especially if the owner happens to be an unscrupulous person, and if he should become sorely pressed for cash. It has scarcely been considered feasible by those best informed on insurance procedure for an insurance company to send out from the head office an official who is financially interested in the success of the company to inspect and evaluate every risk before coverage is given. This means that the companies are dependent upon agents for securing business in states which have valued-policy laws as well as in those which have no such legislation. And, without wishing to cast even the slightest adverse reflection upon fire insurance agents as a class, it is clearly within the realm of possibility that an unscrupulous agent might unwittingly be employed by a fire insurance company. If such agent in collusion with the owner of property should over-insure a property in a state where a valued-policy law was in effect, the chances of that property burning are likely to be increased greatly over the chances of it burning provided there was no valued-policy law in effect. The valued-policy law requires the company, in the event of a total loss, to pay the face value of the policy no matter what the amount of the loss was at the time when it took place, assuming, of course, that the insured has not been responsible in any way for the fire. Unless risks were very carefully selected and conservatively insured, it would be, as we see it, extra-hazardous financially for an insurance company to operate

All That Was Left After A Race Track Fire Was the Cement Supports for the Grandstand

Flames Did Not Stop Here for Substantial Walls

Fires Are Active Here, There and Everywhere Everyday
Top Photo by P. & A.—Those Below by U. & U.

Property and Casualty Insurance

(Continued from page 23)

in a state having a valued-policy law, particularly in country districts where fire-protective provisions are scanty and relatively ineffective, and where, consequently, the chances of a fire causing a total loss are great.

THE writer frequently has heard it urged by really intelligent people, although it must be added in fairness that they did not understand the fundamental principles of sound fire insurance, that a valuation should be placed on property (a house, let us say) when the fire insurance contract is made. Then, if the house burns during the lifetime of the policy and there is a total loss, the insured unfailingly should receive the exact amount mentioned as the face value of the policy, that is, the sum representing the valuation of the property when the insurance was effected. Such persons with their limited and inadequate knowledge of insurance fundamentals were convinced of the justice of the principle involved in a valued-policy law even though they may never have heard of such a law. The principal basis of this contention in the minds of such persons was that the insured had paid the fire insurance premium from year to year on a coverage of $X; consequently he should get $X from the insurance company, in the event of a total loss.

A practical example of such reasoning came to the attention of the writer within the last twelve months. The daughter of a well educated and prominent American citizen in the Middle West owned a summer cottage on a lake in one of the New England states. It was rented for the season of 1926 to a desirable tenant. The cottage took fire and became a total loss. It had been insured for several years past, and a policy was in effect when the fire took place for the same amount that was placed on the building when it originally was built. It had deteriorated in value somewhat, and the owner and the parent were not satisfied with the adjustment of the loss when it was placed at a smaller sum than the face value of the policy. The line of reasoning which constituted the basis in their minds for the unsatisfactory settlement was virtually the same as that outlined in the preceding paragraph.

A moment's reflection, however, makes it apparent that if, when the policy was written, the amount to be paid by the fire insurance company, should the building be totally destroyed by fire, was arranged, every risk would have to be carefully inspected and evaluated by an expert when the policy was written; that, in order for the insurance company adequately to protect itself, the coverage in all cases would have to be a conservative amount; that, in order to allow for possible depreciation in values, the policies would have to be limited to a relatively short period, thus increasing the cost of their issue; that, inasmuch as inspectors and evaluators of insurable property are relatively high-salaried men, the cost of their service, if applied to every risk, would add greatly to the cost of insurance, for such service would be paid for in the long run by the policyholders themselves. Furthermore, only a very small percentage of the risks written ever become a total loss by fire, so that an overwhelmingly large proportion of the work of inspection would be unnecessary.

1928 LEGISLATIVE SESSIONS

Kentucky—begins Jan. 3
Louisiana—begins May 12
Massachusetts—begins Jan. 12
Mississippi—begins Jan. 3
New Jersey—begins Jan 10
New York—begins Jan. 4
Rhode Island—begins Jan. 3
South Carolina—begins Jan. 3
Virginia—begins Jan. 11
U. S. Congress—began Dec. 5, 1927

Extra sessions and adjourned sessions as called.

THE origin of valued-policy legislation as applied to fire insurance is said to be traceable to the State of Wisconsin. It runs back over half a century, for the original law was enacted in 1874. Five years later similar legislation was to be found in three other states, and at the end of the first decade of the twentieth century, valued-policy laws were in effect in about twenty states in all.

It is perhaps fair to say that certain questionable practices of a mere handful of fire insurance companies or their representatives were responsible for the early enactment of such legislation. Policies were sold by representatives of these few companies in farming regions with little relationship, so it was reported, to the matter as to whether or not there was over-insurance. A clause in the policy invalidated it if there had been misrepresentations on the part of the insured; moreover, the contract called for the insured to bear, in any event, something like twenty-five per cent of the loss. It may fairly be assumed that very few of these policies were read by those who purchased them. When fires occurred in the country districts they often demolished the buildings affected, and a reason for evasion of liability on the part of the few unscrupulous companies, it is said, often was found. The farmers were then up in arms against fire insurance, and, as one writer aptly put it, "the industry of fire insurance became *non grata* in every state where the farmers had the controlling voice in legislation, and the entire insurance community has been made to suffer ever since for the sins of a few unprincipled adventurers."

The legislators who attempted to protect their constituents by passing a valued-policy law can scarcely be blamed for undertaking thus to right an evil. It is probably fair to say, however, that a better line of action would have been to require the few offending companies to forfeit their charters, rather than pass such drastic legislation effective against fire insurance companies in general. In the course of time, however, there has developed a considerable body of opinion against the features of valued-policy legislation and some of the states have seen fit to repeal the offending law. This is due, in all probability, to a better understanding of the fundamental principle of sound fire insurance as being indemnity for loss, and a growing appreciation of the fact that a valued-policy law cuts directly across or nullifies this fundamental insurance principle.

The question is sometimes raised as to whether the exponents of valued-policy legislation have any case whatsoever for their contention. The representatives of fire insurance companies, so far as we have been able to sense the situation, are inclined to contend that the question is virtually a one-sided one—that the argument is wholly against such laws. This contention is almost uniformly shared by authorities on insurance. In fairness, however, one should endeavor to get the point of view of those who argue for valued-policy legislation. Some of these take the

(Continued on page 30)

Selling Insurance With Merchandise

Review of Decisions Affecting the "Chrysler Plan" and Other Means of Including Insurance With the Sales Contract

By EDWIN W. PATTERSON
Professor of Law, Columbia University
Author of "The Insurance Commissioner in the United States"

THE seller in a competitive market must utilize every resource in his race for the elusive customer. Alluring advertisements, inviting window displays, and the blandishments of smooth-tongued salesmen are a part of his selling devices. Another part, and the more important from the customer's point of view, is the incidental services or advantages which the seller offers his customers. Replacement of defective furniture, repair of defective automobile parts, taking back goods which do not suit the customer's fancy, are typical of the services which merchants in many lines afford their patrons. Even a limited indemnity against such misfortunes as fire, theft and death, may be held out to customers. Occasionally the merchant steps over the border-line into the realm of insurance, and then he becomes a competitor of insurance companies and their licensed agents. The legality of such selling inducements, therefore, is a matter of some importance to those engaged in the insurance business.

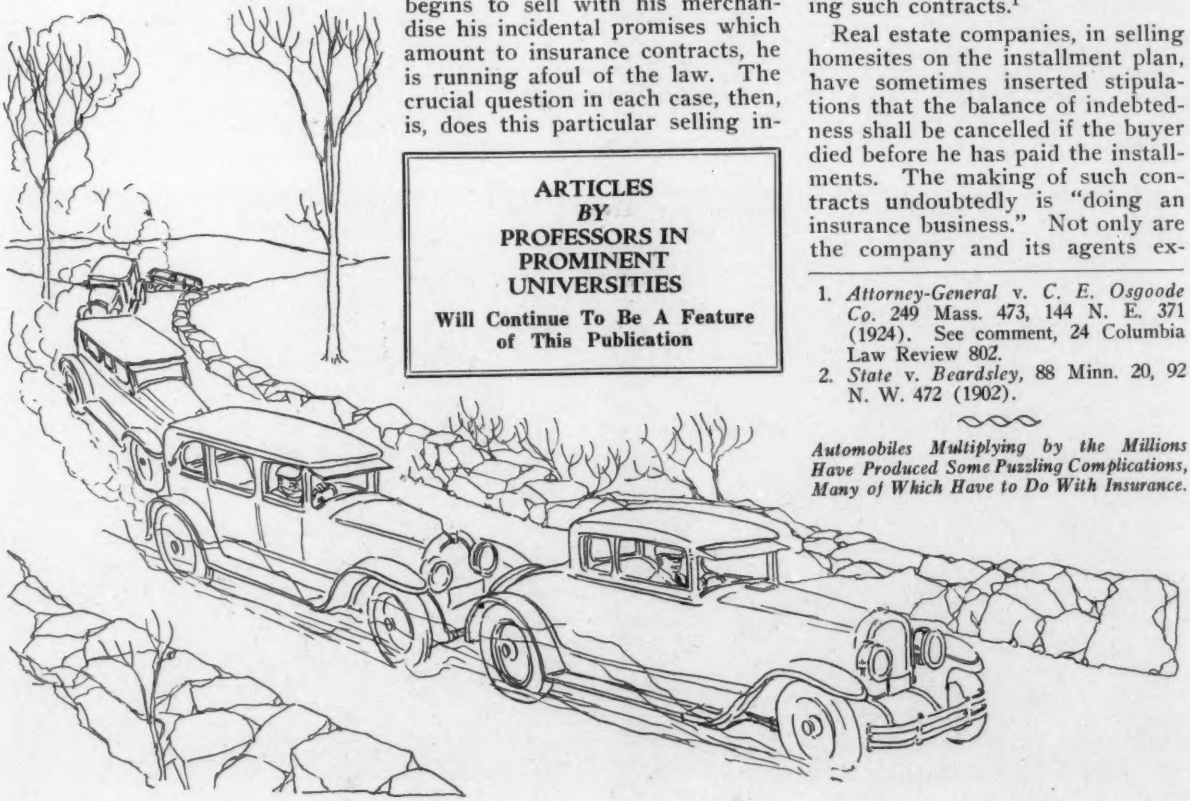
How far, legally, may the seller go in offering such incidental services? Are there any limitations upon his freedom to bind himself to whatever agreement he thinks will bring him the most customers, and the most profits? The insurance statutes of each state impose a limitation upon such practices. The business of insurance can be done, lawfully, only by insurance companies duly incorporated and licensed as such, and through agents who are also duly licensed by the insurance department of the state in which the business is done. Since merchandising corporations are not allowed to do an insurance business, whenever a merchant, whether incorporated or individual, begins to sell with his merchandise his incidental promises which amount to insurance contracts, he is running afoul of the law. The crucial question in each case, then, is, does this particular selling inducement amount to "doing an insurance business," within the meaning of the law?

THE working of these laws is illustrated by a case in Massachusetts in 1924. An installment furniture company, inserted in its contracts a provision that, in the event the buyer died before the furniture was paid for, the remaining unpaid installments need not be paid and the purchaser's title (or that of his heirs) became absolute. This, no doubt, was a good "selling point" for the dealer's salesmen, and enabled him, temporarily, to get ahead of his competitors. But only temporarily, for the Attorney-General brought suit against the furniture company on the ground that it was engaging in the insurance business without a license. The Massachusetts Supreme Court held that the contract included what was in effect a policy of life insurance, and ordered the company to cease making such contracts.[1]

Real estate companies, in selling homesites on the installment plan, have sometimes inserted stipulations that the balance of indebtedness shall be cancelled if the buyer died before he has paid the installments. The making of such contracts undoubtedly is "doing an insurance business." Not only are the company and its agents ex-

1. *Attorney-General* v. *C. E. Osgoode Co.* 249 Mass. 473, 144 N. E. 371 (1924). See comment, 24 Columbia Law Review 802.
2. *State* v. *Beardsley*, 88 Minn. 20, 92 N. W. 472 (1902).

ARTICLES *BY* PROFESSORS IN PROMINENT UNIVERSITIES
Will Continue To Be A Feature of This Publication



Automobiles Multiplying by the Millions Have Produced Some Puzzling Complications, Many of Which Have to Do With Insurance.

posed to criminal prosecution,[2] but also, in many states, the company would be unable to collect the balance of the installments if the buyer should raise the defense of illegality.[3]

An enterprising Ohio undertaker, in order to promote the sale of his caskets and funeral services, issued promissory notes whereby, in consideration of small weekly payments during the life of the holder of the note, he promised to furnish the holder a "respectable burial" whenever he died. The Ohio court held that the undertaker was doing a life insurance business, and, since he had no insurance license, he was ordered to desist.[4] Similar holdings are found in a number of other states.[5] In order to obtain a license to write life insurance, the undertaker would have to have certain assets and reserve funds for the protection of those persons with whom he made such contracts.[6] The strong arm of the law protects the buyers of insurance contracts in a degree unequalled in the case of any other contract. Moreover, insurance premiums are heavily taxed, and the state will not tolerate subterfuges to evade taxation.

The staid *Philadelphia Inquirer,* in its palmy days, adopted an unusual method of increasing its circulation. It announced that it would pay $500 in cash to the "legal heir" of any person who should be accidentally killed on a certain day, with a copy of the newspaper on his person, provided he had previously signed the coupon printed with the announcement. No doubt the Philadelphia newsboys did a lively business on that particular day; but the Attorney-General of Pennsylvania rudely interfered with this exciting practice, and obtained a court order against further infractions of the insurance laws.[7]

DO these holdings mean that the seller of merchandise or services cannot lawfully assume liability to pay money upon the death or injury of his customers, unless he has procured an insurance license? Certainly not. Such liability is assumed every day by persons who are not, and need not be, licensed as insurers. For instance, the retail groceryman, in many states, "guarantees" (in correct legal language, "warrants") the wholesomeness of the food which he sells.[8] If the customer dies from ptomaine poisoning caused by eating tainted canned meat, the groceryman must pay damages to the widow and dependent children of the customer. Yet this does not mean that the groceryman must, under penalty of fine or imprisonment, obtain a life insurance license. The automobile dealer, in selling a new car, impliedly warrants (in the absence of a stipulation to the contrary) that the car is free from hidden defects which make it not suitable for use under ordinary driving conditions. A defective steering gear may mean death to the purchaser, and the dealer will be liable to pay damages. Yet the dealer is not obliged to obtain an insurance license in order to sell automobiles.

Obviously, then, some contracts which partly place the risk of the death of the one party, upon the other party, are held to be life insurance contracts, and others are not. Two tests, it is believed, will separate the one from the other. In the first place, if the seller assumes liability for damages due to events (death, accidents, etc.) which are caused by defects in the article sold, he is not engaged in the insurance business. If, however, he assumes liability for events not so caused, he is. Thus, the death of the purchaser has nothing to do with the furniture

(Continued on page 27)

3. *Missouri, Kansas & Texas Co.* v. *Krumseig,* 77 Fed. 32, 41 (1896).
4. *Renschler* v. *State* ex rel. *Hogan,* 90 Oh. St. 363, 107 N. E. 758 (1914).
5. *State* ex rel. *Fishback* v. *Globe Casket & Undertaking Co.* 82 Wash. 124, 143 Pac. 878 (1914); *State* v. *Willett,* 171 Ind. 296, 86 N. E. 68 (1908); *State* ex rel. *Attorney-General* v. *Wichita Mutual Burial Ass'n.* 73 Kan. 181, 84 Pac. 757 (1906); New York Opinions of the Attorney-General (1895) p. 217.
6. Patterson, The Insurance Commissioner in the United States, (1927) pp. 104, 142, 194.
7. *Commonwealth* v. *Philadelphia Inquirer,* 15 Pa. Co. Ct. 463 (1892).
8. Williston, Sales (2nd ed. 1924), Secs. 242, 242a.

It Is "Insurance" To Guarantee A Plate Glass Window Against Breakage, But A Guaranteed Lightning Rod It Not So Classed

Insurance With Merchandise

(Continued from page 26)

which he buys, or with the newspaper which he reads (let us hope). The contract to assume liability for such death is not incidental to the ordinary merchandising contract, and is therefore insurance. On the other hand, the assumption of liability for defects of the article sold is an incident of the ordinary sales contract, and is not insurance.

THE second test is narrower. Do the existing insurance statutes authorize the formation of insurance companies, vocational risk-bearers, for the purpose of assuming such a risk as the one in question? In other words, is the merchant, in assuming a particular risk, competing with insurance companies which are actually assuming such risks, or which might be licensed to assume such risks? If so, the merchant is "doing an insurance business." This test is narrower than the first, because some risk-bearing contracts are insurance in the first sense, though the existing statutes do not authorize the formation or licensing of insurance companies to write such insurance. If the statutes of a state forbid the doing of any kind of insurance business without a license, the first test should be applied; if the statutes merely forbid the doing of particular branches of insurance, the second. Since life insurance is everywhere covered by statutory regulation, the furniture dealer's installment contract, mentioned above, was "insurance" under either test.[8a] However, in the case of some other risks, the tests work differently.

The distinction is further illustrated by cases relating to other risks than the risk of death. For instance, a lightning rod dealer, to persuade skeptical Iowa farmers that his rods would actually protect their barns from lightning, gave with each rod a "Policy of Protection, Security and Indemnity against Lightning," by which he agreed to pay for all damages from lightning, during a period of five years, to the specified building on which his lightning rod was erected, provided the purchaser kept the rod in good repair. The Supreme Court of Iowa held that this was a warranty of the efficiency of the lightning rod, and not an insurance contract.[9] Similarly, a New York corporation engaged in furnishing reports to wholesale merchants as to the financial conditions of retailers who applied to them for purchases on credit, was held entitled to guarantee the accuracy of its reports, without having a license to write "credit insurance,"[10] In each case the risk assumed extended no further than a defect in the thing sold, hence, not insurance.

On the other hand, a company which contracted to repair and inspect plate glass for its customers, and to replace all glass broken from any cause whatever, was held to be doing an insurance business.[11] Even if the company had made such contracts in connection with the sale of plate glass, it would still be insurance, for there is no such thing as unbreakable plate glass, and there are many causes of breakage which are not due to any defect in the glass. The lightning-rod case differs because lightning-rods, if properly installed and kept in repair, will certainly protect a building from lightning.

SPRING MEETING
of the
FEDERATION
Of Mutual Fire Insurance Companies
NATIONAL ASSOCIATION
Of Automotive Mutual Insurance Companies
NATIONAL ASSOCIATION
Of Mutual Casualty Insurance Companies
MAY 3-4-5

AN Oregon case presents the finest distinction which has been found. A concern engaged in selling prizes, ballots, and other materials for voting contests to be conducted by local merchants to increase their trade, guaranteed a dealer in candy and tobacco that the use of their voting contest material would increase his annual gross sales by twenty-five per cent. The contract was crudely worded, and the court did not say whether the seller was bound to make up the deficiency in gross sales, or merely to refund the purchase price of the outfit. Apparently, the former interpretation was given, for the court held that the concern was doing business in violation of the insurance laws.[12] This seems more like a warranty of the efficiency of the voting contest than like insurance. If the concern merely bound itself to refund the price, the transaction was clearly not insurance. The seller may guarantee the efficiency of his merchandise, without thereby becoming an insurer. Moreover, no such thing as insurance against loss of profits due to any cause, is practiced or even authorized.

Another close case came up recently in Georgia. A seller of automobile lubricants agreed to replace all gears of automobiles on which the lubricant was used, if they were broken "by natural wear and tear." The court held this was not "doing an insurance business" under the Georgia statutes.[13] Under the first test (above), the decision seems wrong, for the breakage of gears might be due, not to any defect in the lubricant, but to a defect in the gears themselves,

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8a. However, on the assumption that the chief purpose of the statutes regulating life insurance companies is to require the insurer to maintain adequate reserve funds to fulfill its promises, no such requirement was necessary in the furniture dealer case, since the insured (buyer of the furniture) already had the furniture and his death merely extinguished the company's lien upon it for the unpaid price, without obligating the company to furnish anything additional. Hence the insolvency of the furniture company could not adversely affect the rights of the buyer.

9. *Cole Bros.* v. *Haven*, 7 N. W. 383 (Ia., 1880).

10. *People ex rel. Daily Credit Service Corp'n.* v. *May*, 162 App. Div. (N. Y.) 215, 147 N. Y. Supp. 487 (1914) (*mandamus* to compel Secretary of State to file amended atricles of incorporation).

11. *People* v. *Standard Plate Glass & Salvage Co.*, 174 App. Div. (N. Y.) 501, 156 N. Y. Supp. 1012 (1916).

12. *National Sales Co.* v. *Manciet*, 83 Ore. 34, 162 Pac. 1055 (1917). The decision can be justified on grounds other than that involving the insurance point.

13. *Evans & Tate* v. *Premier Refining Co.*, 31 Ga. App. 393, 120 S. E. 553 (1923).

Insurance With Merchandise

(Continued from page 27)

over which the seller of the lubricant has no control. Hence, the contract was a peculiar kind of insurance on automobile gears. However, the Georgia statutes did not authorize the formation or licensing of companies to write such insurance. Hence, under the second test, the decision was correct.

ONE of the most ingenious schemes for the sale of insurance with merchandise was that developed several years ago by the Chrysler Sales Corporation, for use in connection with the sale of Chrysler automobiles. The company wanted to give its customers insurance against fire and theft along with the sale of its new cars. However, the company made no attempt to accomplish this result under the guise of a "warranty" of the quality of its cars, for obviously no automobile can be wholly fire-proof or theft-proof. Instead, it sold the obligation of a South Carolina insurance company which was engaged in the business of fire and theft insurance. The Chrysler Sales Corporation, in Detroit, made a contract (called a "master policy") with the insurer whereby the latter, for the premium paid by the Sales Corporation, agreed to insure that corporation, "for account of whom it may concern," against fire or theft, on every Chrysler automobile, for a term of one year from date of sale. "Whom it may concern" referred to the retail buyers of the cars, and persons holding mortgages for the unpaid price. As each car was sold, it became automatically insured, and the insurer issued to the purchaser, a certificate stating that he was covered by the master policy. No extra charge was made to the purchaser.

This ingenious scheme had many advantages. It saved the customer money on his insurance and brokerage charges, and it saved him the trouble of procuring insurance elsewhere, which often he would neglect. It was a good "talking-point" for Chrysler salesmen. However, a number of state insurance departments attacked it as evasive of the taxing statutes and regulatory requirements of the states in which the cars were sold at retail. One line of attack was to revoke the license of the insurance company. In Ohio this was successful, on the ground that the insurer was writing insurance on Ohio property (the Chrysler cars sold in Ohio) otherwise than through a resident agent licensed in Ohio, in violation of a peculiar Ohio statute.[14] But in New York, which had no such statute, the revocation was enjoined by the lower Federal court, which held that the insurer under this arrangement, was not "doing business" in New York, and was therefore not subject to New York laws.[15] The Ohio case has been upheld by the United States Supreme Court, and the New York case impliedly overruled.[16]

THE other attack was made on the local dealers, who sold the automobiles at retail and thereby, under the provisions of the "master policy," automatically made the insurance effective. Federal courts in Wisconsin[17] and Maine[18] refused to enjoin the insurance commissioners from prosecuting these local dealers. Despite the fact that the "master policy" was issued in Michigan, these courts held that the local dealers were acting as "agents," or the equivalent, for the insurance company, and hence must comply with local laws. These decisions were likewise upheld by the Supreme Court.[19]

These holdings were necessary to carry out the purpose of the state insurance laws. Not only would the state lose its tax on the premiums, but also the purchasers of the automobiles would not get the protection which was due them. If the insurance company did not become licensed in Wisconsin, for example, the Wisconsin buyer would have to go outside the state in order to sue on his policy, and he would not have the protection of the deposit requirements and other safeguards which Wisconsin requires of insurers doing business in the state. The Chrysler scheme would be lawful only if the insurance company, as insurer, and the local dealers, as agents, procured insurance licenses.

In conclusion, the selling of insurance with merchandise is illegal, unless the seller is a licensed insurance agent for a licensed insurance company. That is, if he really is making contracts of insurance. The seller may, however, with safety make contracts which look like insurance, but which are really only warranties of the fitness or quality of his goods.

14. *Palmetto Fire Ins. Co.* v. *Conn.*, 9 F. (2d) 202 (U. S. Dist. Ct., Ohio; 1925).
15. *Palmetto Fire Ins. Co.* v. *Beha*, 13 F. (2d) 500 (1926).
16. *Palmetto Fire Ins. Co.* v. *Conn.*, 47 Sup. Ct. 88 (1926).
17. *Chrysler Sales Corporation* v. *Smith*, 9 F. (2d) 666 (U. S. Dist. Ct., Wis.; 1925).
18. *Chrysler Sales Corporation v. Spencer*, 9 F. (2d) 674 (U. S. Dist. Ct., Me.; 1925).
19. *Palmetto Fire Ins. Co.* v. *Conn., supra*, note 16.

Dust Explosions

(Continued from page 6)

and have resulted in marked progress in their control. Although the first dust explosions were in flour mills, we find in more recent years that a larger number of explosions have occurred in grain elevators and grain handling plants, and in many types of industrial and manufacturing establishments. It now appears that practically all types of combustible dusts, or dusts which burn, when mixed with air in proper proportions will explode if ignited by an external source. About the only kinds of dusts which do not explode are the inert dusts, such as shale, limestone, and gypsum.

From the experience that some of the fire departments have had in fighting fires in industrial establishments where explosive dusts are produced, it is quite evident that firemen should become acquainted with the work that has been done on this subject and understand fully the hazard involved in fighting fires in factories where explosive dusts are being created. The courage, bravery, and spirit of self-sacrifice of the firemen in fighting hazardous fires commands the sincere respect and admiration of every redblooded American. A prominent authority on fire prevention has recently said, "It is because we admire these qualities in firemen that the sad news of the loss of the lives of firemen while fighting fires in industrial plants always comes with a great shock."

Need For Periodical Inspection

IN order that the members of the fire departments may become acquainted with the dust hazard some provisions must necessarily be made for periodical inspection of industrial plants and manufacturing establishments. These inspections serve principally three important and useful purposes:

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Engineering Insurance

(*Continued from page 8*)

as they apply to the other direct damage forms. Space unfortunately does not permit a complete description of the indirect loss covers. To simplify the analysis, the coverage will be divided into 4 parts, as follows:

1. Promises of the company
2. Promises of the insured
3. Rights of the company
4. Rights of the insured

The first and third of these, as in casualty insurance forms generally, are of the greatest importance.

1. *Promises to the Company—*
(a) *To Pay*

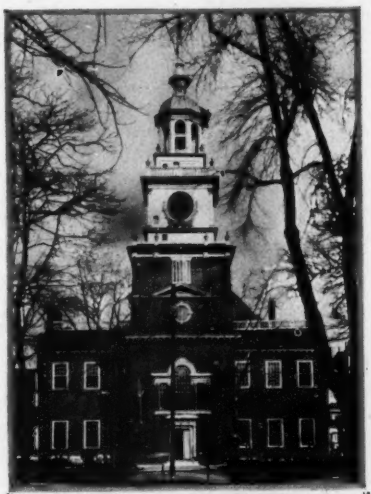
THE most important promise of the company is to pay. A typical steam boiler insuring clause reads: "The company insures against damage to property of the insured and from the insured's liability for damage to the property of others, caused by the explosion, collapse or rupture" of scheduled boilers. This covers all of the obligations of the insurer except that of indemnifying the insured for damage suits or claims arising out of personal injuries to members of the public, a promise which appears later in the policy for reasons to be discussed presently. The word "boiler" is construed to include, not only the steam boiler familiar as a part of almost every industrial plant, it embraces a great variety of vessels whose common characteristic is their subjection to pressure of some sort. The pressure may be internal or external, but is usually the former. The pressure need not be that exerted by steam, but may be and often is that of air, gas or liquids; nor need the vessel be subjected to furnace heat. The following vessels for example are insured in the steam boiler policy, none of them subject to furnace heat, and only a few of them to pressure of steam:

Air tanks
Hose drying forms
Refrigerating apparatus.
Stand pipes
Tanks for storing water, oil, non-combustible gas, molasses, etc.

"Explosion" is defined as a "sudden substantial tearing asunder," "collapse," as a "sudden crushing or forcing inward," both expressions designed to explain that the obligation of the insurer is to pay for losses resulting only from real accident. The policy is not a contract to maintain the insured objects in good repaid; in another of its sections it specifically denies liabilities for loss or damage *to parts worn out,* but of course covers all losses *resulting from worn out parts.*

The flywheel policy (which may be purchased separately when not sold with the engine policy) insures against "explosion" also, in this case meaning a "sudden and substantial bursting into two or more parts, while it is revolving." The flywheel hazard is thus on all fours with the steam boiler hazard and is closely analogous to it. But a significant difference is apparent between the insuring clauses of the boiler and flywheel policies on one hand and of the engine and electrical machine policies on the other. In the former, the causes of compensable loss or damage are definite, hence the insuring clause is in terms of *causes* of loss; in the latter the causes are highly indefinite and indeed often unknown, and a compensable loss may be defined satisfactorily only in terms of *results.* For example, the engine policy defines compensable loss as resulting from a sudden breaking "of the engine or any part thereof while running, which immediately prevents the continued operation of the engine;" the electrical machinery breakdown policy defines it as loss resulting from the "sudden, substantial and accidental burning out or breaking of a machine or any part thereof. . . . which immediately stops the function of the machine." It should be noted also that the two latter policy forms insure against hazards which are primarily serious for the object insured, the two former against hazards primarily serious for other objects and persons.

(*Continued In Next Issue*)



INDEPENDENCE HALL
Philadelphia, Pa.

OUR cover this month is of Independence Hall, one of the most historic of all American buildings. The Continental Congress met within its portals from 1775 to 1781 and Washington was given command of the Continental Army there. The Declaration of Independence was signed in the East room of the Hall on July 4th, 1776. The traditions surrounding Independence Hall are enhanced by the presence of the Liberty Bell which has become a shrine for liberty loving patriots throughout the world.

Dust Explosions

(*Continued from page 28*)

1. Conditions which may cause or help to spread fires are discovered and remedied.
2. Firemen become thoroughly familiar with the structural conditions of the buildings and the hazardous manufacturing processes carried on in them.
3. A definite knowledge of the contents of the buildings and the products handled and manufactured is obtained.

Some fires, seemingly extinguished after a few minutes of work, have often become disastrous because the firemen did not know the many flues, vertical openings, openings in firewalls, concealed spaces, and other avenues for fire to spread. Only close inspection of a building will give this important information.

It is common knowledge that dynamite or gasoline or a process in which inflammable oils are used constitutes a serious danger to firemen. Firemen must understand that other substances, such as dusts or chemicals are just as hazardous, and adopt proper precautions.

From the investigation of dust explosions that have occurred while fire was in progress it appears that these explosions might be classified under the following heads:

1. Explosions that occur during the drawing of contents of bins or storage vaults.
2. Explosions that occur during the fighting of fires in factories and manufacturing establishments.
3. Explosions that are due to the force of the full stream of water on piles of dust.

Precautionary Measures

THE following precautionary measures are suggested as possible means of dealing with the various explosion causes referred to:

1. Instead of immediately removing the contents of a bin in which a

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Property and Casualty Insurance

(Continued from page 24)

ground that, in the absence of a valued-policy law in any particular state, the companies can safely insure property for liberal amounts; that they can go so far as to over-insure without fear of any damaging effects; that this practice enhances their premium incomes: that, inasmuch as only a small proportion of losses are total, the question of over-insurance never will arise, but that the excess premiums continue to be collected nevertheless; that when an over-insured building happens to be destroyed, the insurance company will indemnify the insured for his actual loss, and in these relatively few cases turn back to the insured such excess premium as he has been paying; and that the rank and file of over-insured persons never get a refund of excess premiums because they either do not have a fire at all, or they do not suffer a total loss when they do have one.

An impartial critic probably would admit that there is some ground for this line of argument in support of the case for valued-policy legislation. Nevertheless, we strongly believe that the overwhelming weight of argument is on the side of the opponents of such laws. The undisputed fact remains that the insured, if he pays premiums on more fire insurance than he can reasonably collect in event of a total loss, has not been required by the company to do this; it has been a voluntary act on the part of the insured. Consequently, we are forced to the conclusion that the present principle upon which sound fire insurance is based—that of indemnifying the insured for the loss suffered at the time the loss actually takes place—is, on the whole, an entirely sound one; and that any attempt to neutralize this principle by valued-policy legislation is ill-advised, against the best interests of the insurance-buying public, and costly beyond any benefits, real or imaginary, that can possibly accrue.

Understand Co-Insurance

(Continued from page 21)

in the large majority of partial losses that co-insurance is considered in accordance with the examples previously given in this article.

From the Company Standpoint.

WHY is it that the insurance companies offer lower rates for placing insurance on the co-insurance plan?

The chief principle underlying co-insurance, as far as the companies are concerned, is the equalization of rates so that every assured pays a premium in proportion to the indemnity realized in the case of loss.

The inequity and injustice of the old system of insurance is shown by the example of two buildings adjoining each other, of same value and each damaged by fire for the same amount.

TABLE NO. 5

Without Reduced Rate Average or Co-Insurance Clause Building Value, $60,000.00.

	Insurance	Premium
Company "A"	$ 20,000	$ 200

Fire occurs, loss $12,000, Company "A" receives $200, pays $12,000.

TABLE NO. 6

With Eighty Percent Reduced Rate Average or Co-Insurance Clause Building Value, $60,000.00.

	Insurance	Premium
Company "A"	$ 20,000	$ 150
Company "B"	18,000	135
Company "C"	10,000	75
Totals	$ 48,000	$360

Fire occurs, loss $12,000.

Company "A" receives	$150, pays	$ 5,000
Company "B" receives	135, pays	4,500
Company "C" receives	75, pays	2,500
Totals	$360	$12,000

In the two foregoing examples Company "A" incurs about two and a half times the liability on the first building that it does on the second, and receives only ⅓ more premium, which certainly is not equitable.

Now let your imagination stretch out over thousands and tens of thousands of similar cases. Without further explanation, it can readily be seen how the law of averages will carry this thing along inequitable to both companies and assureds in the vast multiplication of the first example; but on an equitable basis for companies and assureds in the second case.

And So May It Be.

THERE, my readers, is a non-technical analysis of "Co-Insurance." It is written for the benefit of the average Mr. Merchant in the average American small city or town. I have used the short-story style of a mythical, (yet ordinary) loss and adjustment because I believe the problems of this plan of insurance protection can be better understood by carrying the analysis through in that manner. Another reason for the style used is that many other articles which I have seen dealing with this subject have been written in a too technical manner, filled with insurance terms that mean nothing but distraction for the average Mr. Merchant, and little more, to far too many insurance agents. It is my sincere hope that this explanation may be of benefit in clearing up the subject of co-insurance in the mind of the general public.

Seasonal Variation of Fire Loss

(Continued from page 15)

Electricity. Under the heading electricity are included fires caused by short-circuits, electric appliances, static electricity and defective wiring. The variation from month to month from this cause is very slight (Fig. 5). The percentage of fires from electricity occurring during the colder months is 53 and during the warmer 47. This also follows the general tendency. Of the total fires from all causes 4.7 per cent are caused by electricity.

Spontaneous Combustion. In Fig. 5 are also shown averages obtained from the reports of fires caused by spontaneous combustion. The greatest number of such fires occurs during the month of October and the least in February. The variation according to seasons is less from this cause than from any of the other causes cited, being 52 per cent in the colder period and 48 per cent in the warmer period. Spontaneous combustion is responsible for only 1.9 per cent of the total fires from all causes, for the area concerned.

Total Losses. In Fig. 3 are shown the average losses by months from all causes in the area composed of the three states and the District of Columbia during the same periods as used above. The highest average loss for any one month is shown in March and the next highest in April, the first being one of the colder and the second one of the warmer months according to the arbitrary division of the year previously indicated. For the losses also the percentage of the total is greater for the colder months, being 62 per cent as compared with 38 per cent for the warmer period. It will be noted from Fig. 3 that the number of fires shows a continuous decrease from January to August with the single exception of a rise in March and a continuous increase from August to December. However, the loss averages are more irregular, showing very decided increases in March and April due possibly to high winds, drier interiors

of heated buildings and other conditions favoring the progress of fire.

Conclusions

ALTHOUGH the figures used are necessarily approximate, it can be stated that there is a definite variation according to seasons in both the number of fires and the fire losses. Individual causes or areas may show exceptionally high losses or numbers of fires during certain spring, fall or summer months, yet the general tendency to increased numbers and losses in the winter period is evident in practically every instance.

Crop Hazards

(*Continued from page 12*)

at harvest time between the amount of insurance and the actual market value of the crop at that time, the company lost heavily. The experience of this season discouraged insurance companies from further attempting crop insurance based on an assumption of investment costs, particularly when applied to the major crops. It also discouraged any further attempt to insure the farmer against a possible decline in the market price of his crops.

The year 1921 was a turning point in the development of crop insurance. After the disastrous year of 1920, all of the companies discontinued writing the line on the major crops of grain and cotton. One company did offer to write a contract on grain but it was extremely restricted and unsalable. Efforts were directed, instead, to fruit and truck farming. The experience during the past five years has been more favorable and written along different lines than the earlier experiments. This recent experience in crop insurance will, therefore, be separately treated.

WHILE the experience up to 1921 was unfavorable for the insurer, it has not been valueless for, if it affords nothing else, it at least suggests features and methods of approach that should not be attempted. These relate to:

1. Size of the company, which should be either a company of unusual financial strength or a pool with ample support. The hazard assumed in this line of insurance is not unlike the catastrophe hazard in fire insurance. Profits may appear good for a number of years, only to be completely swept away by one or two total failures.

2. Because investment costs are highly variable and impossible of accurate determination, the amount of insurance should be some fixed figure based upon a very conservative estimate of the probable market value of the crop insured. It might be a good selling point to call this amount a sum sufficient to cover investment costs. But it should be a definite figure and a very conservative one so that the company would be called upon to meet only losses amounting to substantially a failure.

3. This type of insurance cannot be successfully written without the closest personal inspection and supervision of the risk. Distant supervision through fire agents or other representatives not thoroughly familiar with local agriculture and not having a practical knowledge of it cannot expect to succeed.

4. It is needless to say that the usual features in all sound insurance undertakings should be incorporated in any plan of crop insurance such as ample reserves, care in avoiding poor risks, and competent management.

BITS OF WIT

Wants to Be an Angel

Mrs. M. W. writes: "My little four-year-old girl said to me the other day, 'Muvver, how long is it to my birthday?'"

"'Not very long, dear,' I told her.

"'Well,' she asked, 'is it time for me to begin being a good girl?'"—*Boston Transcript.*

A Trifle Wet

Fair tonight and Tuesday. Not much change in temperance. — *Pennsylvania paper.*

Jazzing the Decalog

"My dear young lady," said the clergyman, in grieved tones as he listened to an extremely modern young woman tear off some of the very latest jazz on the piano, "have you ever heard of the Ten Commandments?"

"Whistle a few bars," said the young lady, "and I think I can follow you."—*Christian Evangelist.*

Exterior Decoration

Clarice—"Don't you think George dresses nattily?"

Maurice—"Natalie who?"—*Judge.*

Those Dear Girls

"Tell me, just what sort of a man your fiance is, Clara."

"Oh, he's everything that's nice."

"I'm so glad. You know I've always said that people should marry their opposites."

Triumphant Realist

The poet and ornithologist
Differ in ways absurd.
One writes—"The bird is on the wing."
The other answers—"No such thing!
The wing is on the bird."
American Boy.

The Fashionable Remedy

"Her countenance fell,"
Writes an author gifted.
No doubt she went
And had it lifted.
—*Boston Transcript.*

Not Esthetic

Cyril: "I wouldn't send my stuff to *Happy Daize* magazine."

Egbert: "Why not?"

Cyril: "I don't like the color of their rejection slips."—*Allston (Mass.) Recorder.*

Sam: Hello, Bill, been huntin'?

Bill: Yes.

Sam: Shoot anything?

Bill: Shot my dog.

Sam: Was he mad?

Bill: Well, he didn't act any too darn pleased.

Thrifty Bridegroom

Mr. Macdonald (arranging with clergyman for his second marriage): "And I should like the ceremony in my yard this time, sir."

Clergyman: "Good gracious, why?"

Mr. Macdonald: "Then the fowls can pick up the rice—we wasted a deal last time!"—*London Opinion.*

Their Ideals

He: "My ideal of a wife is one who can make good bread."

She: "My ideal of a husband is one who can raise the dough in the hour of knead."

WISE CRACKS

"By the time a man learns to keep silent he knows much that is worth saying."

"Being struck by a happy thought never hurt anybody."

"You can't stop people from thinking—but you can start them."

A suggested sign for railroad crossings: "Better stop a minute than forever."

"All bridge players should be buried with simple honors."

Long Wait

"You're back early, Michael," remarked the farmer's wife to the head man who had been to a theatre in the town.

The other nodded a silent agreement and proceeded to enjoy a pipe and study his program.

"Enjoy the play?" asked the woman.

"No," replied the man. "Didn't see the end."

"Why not?"

"Well, take a look at the program here. The second act takes place in two yeaers' time."—*The Kablegram.*

Pledged to a competent, prudent and conservative execution of its business for the purpose of obtaining the greatest benefits for its policy-holders and as its contribution to a continuance of the present high regard for the principles of mutual insurance.

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SAFETY

Combined Statement
June 30, 1927

Assets	$8,654,446.38
Liabilities	5,549,795.48
Surplus	3,104,650.90

Dividends Returned to Policy Holders
Since Organization $21,639,703.73

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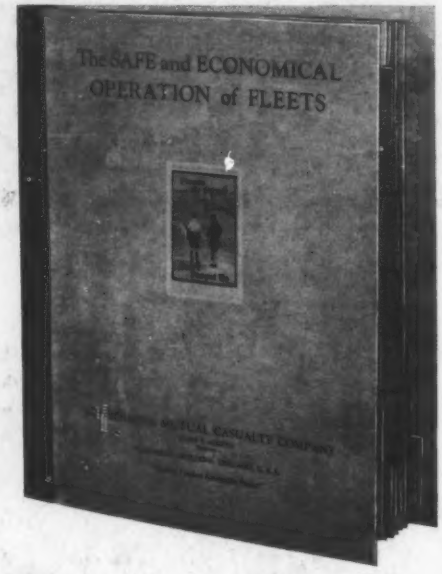
STRENGTH



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Annual Cash Dividends to Policyholders Since Organization